Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

BLUE RIDGE REGIONAL OFFICE

901 Russell Drive, Salem, Virginia 24153

(540) 562-6700 FAX (540) 562-6725

www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

Robert J. Weld
Regional Director

April 7, 2020

Mr. Don Wilkerson
General Manager
WestRock Virginia, LLC
104 E. Riverside Street
Covington, VA 24426

Location: City of Covington
Registration No.: 20328

Dear Mr. Wilkerson:

Attached is a significant modification to your Title V permit to operate your facility pursuant to 9VAC5 Chapter 80 Article 1 of the Virginia Regulations for the Control and Abatement of Air Pollution. The attached permit will be in effect beginning April 7, 2020. In the course of evaluating the application and arriving at a final decision to issue this permit, the Department of Environmental Quality (DEQ) deemed the application complete on November 26, 2019 and solicited written public comments by placing a newspaper advertisement in the *Virginian Review* on February 20, 2020. The thirty-day required comment period, provided for in 9VAC5-80-270 expired on March 23, 2020.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and/or civil charges. Please read all permit conditions carefully.

This permit approval to operate shall not relieve WestRock Virginia, LLC of the responsibility to comply with all other local, state, and federal permit regulations.

To review any federal rules referenced in the attached permit, the US Government Publishing Office maintains the text of these rules at www.ecfr.gov, Title 40, Parts 60 and 63.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this case decision notice was mailed or delivered to you. Please consult the relevant regulations for additional requirements for such requests.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

David K. Paylor, Director
Department of Environmental Quality
P. O. Box 1105
Richmond, VA 23218

If this permit was delivered to you by mail, three days are added to the thirty-day period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit, please contact Mary Monroe at mary.monroe@deq.virginia.gov or (540) 562-6850.

Sincerely,

Robert J. Weld
Regional Director

Attachments: Permit and Statement of Basis

cc: Riley Burger, EPA Region III (burger.riley@epa.gov)
Susan Tripp, DEQ Office of Air Permit Programs (OAPP) (susan.tripp@deq.viginia.gov)
Frank Craighead, DEQ BRRO Air Compliance Inspector (electronic)

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Federal Operating Permit
Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 and Chapter 140 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9VAC5-80-50 through 9VAC5-80-300, and 9VAC5-140-10 through 9VAC5-140-900 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	WestRock Virginia, LLC
Facility Name:	WestRock Virginia, LLC
Facility Location:	104 East Riverside Street, Covington, Virginia
Registration Number:	20328
Permit Number:	BRRO-20328

This permit includes the following programs:

Federally Enforceable Requirements - Clean Air Act
Federally Enforceable Requirements – NO_X Budget Program Requirements

January 30, 2019
Effective Date

April 7, 2020
Modification Date

January 29, 2024
Expiration Date

April 7, 2020
Modification Signature Date

Robert J. Weld, Regional Director

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ATTACHMENTS

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Facility Information

Permittee
WestRock Virginia, LLC
104 East Riverside Street
Covington, VA 24426

Responsible Official
Don Wilkerson
General Manager

Facility
WestRock Virginia, LLC
104 East Riverside Street
Covington, VA 24426

Contact Person
Tyler Totten
Environmental Engineer

NOx Authorized Account Representative
WestRock Virginia, LLC
Vice President - Covington Mill Operations
NOx Alternate Authorized Account Representative:
Environmental Supervisor - Air

County-Plant Identification Number: 51-580-0003

Facility Description: NAICS 32221 – This facility is a large integrated kraft pulp and paperboard mill. Pulp is produced from wood by the kraft pulping process. All pulp produced is bleached with a modern elemental chlorine free (ECF) bleaching process. Prior to bleaching, most of the pulp is processed in an oxygen delignification system.

Production units which are integral to the operation of the mill include the Woodyard, Unbleached Pulp Mill, Chemical Recovery, Bleach Room, Chlorine Dioxide Plant, Wastewater Treatment, Paper Mill and Biomass/Powerhouse Boilers.

The facility is a Title V major emission source of Sulfur Dioxide (SO2), Nitrogen Oxides (NOX), Carbon Monoxide (CO), Particulate Matter (PM, PM10 and PM2.5), Sulfuric Acid Mist, Total Reduced Sulfur (TRS), Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs). The source is located in an attainment area for all pollutants and is a Prevention of Significant Deterioration (PSD) major source for SO2, NOX, CO, PM, PM10, PM2.5, VOC, TRS, reduced sulfur compounds, fluorides and sulfuric acid mist.

Emission Units

Process Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Fuel Burning Equipment – Emergency Diesel Engines					
ENG001		Cummins Woodyard Firewater Pump 1	208 HP	---	---	---	---
ENG002		Caterpillar Woodyard Firewater Pump 2	266 HP	---	---	---	---
ENG003		Cummins Filter Building Firewater Pump	208 HP	---	---	---	---
ENG004		Kubota C1 Lighting Generator	36 HP	---	---	---	---
ENG005		John Deere C2 Lighting Generator	102 HP	---	---	---	---
ENG006		Ford No. 1 Recovery Unit Backup Generator	110 HP	---	---	---	---
ENG007		John Deere No. 2 Recovery Unit Backup Generator	102 HP	---	---	---	---
ENG008		John Deere No. 2 Lime Kiln Backup Generator	102 HP	---	---	---	---
		Fuel Burning Equipment – Non-emergency Diesel Engines					
ENG009		John Deere East Side Pump 1	118 HP	---	---	---	---
ENG010		John Deere East Side Pump 2	68 HP	---	---	---	---
ENG011		John Deere No. 9 Pump Station Pump	92 HP	---	---	---	---

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
ENG012		John Deere Paper Mill Pump Station Pump 1	75 HP	---	---	---	---
ENG013		John Deere Paper Mill Pump Station Pump 2	75 HP	---	---	---	---
ENG014		John Deere Bleach Room C Unit Courtyard Pump	80 HP	---	---	---	---
ENG015		John Deere Landfill 2 Pump	80 HP	---	---	---	---
		Fuel Burning Equipment – Power Boiler Nos. 1, 6, 9, 10 & 11					
PWR006	PWRA	No. 6 Boiler (Coal & natural gas fired)	550 MMBTU/hr	ESP, SO_2 scrubber, low NO_X burners	PHCD01, PHCD07	PM, SO_2, NO_X	11/20/07, 2/25/08, 5/4/11
PWR009	PWRA	No. 9 Boiler (Coal fired)	807 MMBTU/hr	ESP, SO_2 scrubber, low NO_X burners, SNCR	PHCD04, PHCD07 PHCD09	PM, SO_2, NO_X	11/20/07, 2/25/08, 2/23/09, 5/4/11, 10/14/14
PWR010	PWRB	No. 10 Boiler (Natural gas fired)	330 MMBTU/hr	---	---	---	11/20/07, 2/23/09
PWR011	PWRC	No. 11 Boiler (Natural gas fired)	425 MMBTU/hr	Low NOX burners, FGR	---	NO_X	2/25/08
PWR012		Coal Handling System	95 tons/hr	---	---	---	---
PWR014	REC 010	No. 1 Bubbling Fluidized Bed Biomass Boiler - Andritz	987 MMBTU/hr biomass combustion with 395 MMBTU/hr NG burner	Fabric filter, DSI, SNCR, Activated Carbon Injection	PB1CD01 PB1CD02 PB1CD03 PB1CD04	PM, PM_{10}, $PM_{2.5}$, SO_2, HCl, HF, H2S04, NO_X, Hg	10/17/18

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Fuel Burning Equipment – Power Boiler Nos. 1, 6, 9, 10 & 11 continued					
M-1		Existing Woodyard, Hog. No. 3 & transfer point at conveyor tower	800 tons/hr, 8,000 scfm	Fabric filter	M1CD01	PM_{10}	10/17/18
M-2		Stacker/Reclaimer transfer tower, 3 belts	800 tons/hr	---	---	---	10/17/18
M-3		Stacker/Reclaimer tower	800 tons/hr	---	---	---	10/17/18
M-4		Truck dumpers & conveyor transfer points	800 tons/hr, 8,000 scfm	Fabric filter	M4CD01	PM_{10}	10/17/18
M-5		Emergency drag chain conveyor	800 tons/hr	---	---	---	10/17/18
M-6		Emergency drag chain	800 tons/hr	---	---	---	10/17/18
M-7		No. 1 & 2 hog and conveyor	800 tons/hr	Fabric filter	M7CD01	PM_{10}	10/17/18
M-8		Two boiler fuel bins and two belts	800 tons/hr	---	---	---	10/17/18
M-9		Fly Ash Silo	1 ton/hr, 8,000 scfm	Fabric filter	M9CD01	PM_{10}	10/17/18
M-10		Sorbent Silo	0.5 ton/hr, 3,000 scfm	Fabric filter	M10CD01	PM_{10}	10/17/18
M-11		Sand Silo Bin	0.25 ton/hr, 3,000 scfm	Fabric filter	M11CD01	PM_{10}	10/17/18
M-12		Activated Carbon Silo Bin	0.1 ton/hr, 3,000 scfm	Fabric filter	M12CD01	PM_{10}	10/17/18
M-15		Milling Equipment (2) enclosed conveyors, (2) rotary grinder mills, (2) blowers	0.5 ton/hr	Fabric filter	M15CD01	PM_{10}	10/17/18

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
CT-1		Cooling tower	21,600 gpm	Drift Eliminator	CT1CD01	---	10/17/18
		Fly Ash Silos and Handling Systems					
PWR020		Fly Ash Silo and Handling System for PWR006	15 tons/hr	Fabric filter	PWRCD20	PM, PM_{10}, $PM_{2.5}$	11/7/14
PWR021		Fly Ash Silo and Handling System for PWR009	15 tons/hr	Fabric filter	PWRCD21	PM, PM_{10}, $PM_{2.5}$	11/7/14
		Dry Sorbent Storage and Handling System					
RFC001		Dry Sorbent Silo		Fabric filter	RFCCD01	PM, PM_{10}	6/22/12
RFC002		Weigh Hopper		Fabric filter	RFCCD02	PM, PM_{10}	6/22/12
		Unbleached Pulp Mill (except recovery furnaces, smelt tanks and lime kilns)					
UPM002		Digester Charging System	2600 ADTP/day	---	---	---	---
UPM003		Batch Digesters 1-18 System	2600 ADTP/day	NCGS/LVHC**	NCGS	VOC, TRS, HAPs	11/20/07, 2/25/08
UPM003a		Digesters 19 & 20	2600 ADTP/day	NCGS/LVHC**	NCGS	VOC, TRS, HAPs	10/17/18
UPM004		Turpentine System	2600 ADTP/day	NCGS/LVHC**	NCGS	VOC, TRS, HAPs	11/20/07, 2/25/08
UPM005		Knot Handling System	2600 ADTP/day	NCGS/HVLC***	NCGS	HAPs	2/25/08
UPM010		A Line Brownstock Washer System	1200 ODT/day	NCGS/HVLC***	NCGS	VOC, TRS, HAPs	2/25/08

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Unbleached Pulp Mill (except recovery furnaces, smelt tanks and lime kilns) continued					
UPM011		A Line High Density Storage	1200 ODT/day	NCGS/HVLC***	NCGS	HAPs, VOC	---
UPM012		A Line Oxygen Delignification Blow Tank	1200 ODT/day	NCGS/HVLC***	NCGS	HAPs, VOC	2/25/08
UPM013		A Line Post Oxygen Washing System	1200 ODT/day	NCGS/HVLC***	NCGS	HAPs, VOC	2/25/08
UPM014		A Line Screening System	1200 ODT/day	---	---	---	2/25/08
UPM020		C Line Brownstock Washer System	1200 ODT/day	NCGS/HVLC***	NCGS	HAPs, TRS, VOC	2/25/08
UPM021		C Line High Density Storage	1200 ODT/day	NCGS/HVLC***	NCGS	HAPs, VOC	---
UPM024		C Line Screening System	1200 ODT/day	---	---	---	2/25/08
UPM030		D Line Brownstock Washer System	1200 ODT/day	NCGS/HVLC***	NCGS	VOC, TRS, HAPs	11/20/07
UPM031		D Line High Density Storage	1200 ODT/day	NCGS/HVLC***	NCGS	HAPs, VOC	11/20/07
UPM032		D Line Oxygen Delignification Blow Tank	1200 ODT/day	NCGS/HVLC***	NCGS	HAPs, VOC	11/20/07, 2/25/08
UPM033		D Line Post Oxygen Wash System	1200 ODT/day	NCGS/HVLC***	NCGS	HAPs, VOC	11/20/07, 2/25/08
UPM034		D Line Screening System	1200 ODT/day	---	---	---	11/20/07, 2/25/08
UPM040		Unbleached Stock Storage	2600 ADTP/day	---	---	---	---

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Unbleached Pulp Mill (except recovery furnaces, smelt tanks and lime kilns) continued					
UPM042		Shower Water System	2600 ADTP/day	---	---	---	---
REC004		No. 1 Recovery Salt Cake Mix Tank	2627 TBLS/day	---	---	---	---
REC006		Oxidized Black Liquor Storage	2627 TBLS/day	---	---	---	---
REC012		No. 2 Recovery Salt Cake Mix Tank	3000 TBLS/day	---	---	---	---
REC020		Black Liquor Storage	5627 TBLS/day	---	---	---	---
REC021		Light Liquor Storage	5627 TBLS/day	---	---	---	---
REC030		Weak Wash Storage	1220 TCaO/day	---	---	---	---
REC032		Green Liquor Clarifier System	1220 TCaO/day	---	---	---	2/25/08
REC034		No. 16 Slaker/Causticizers (16 ft)	413 TCaO/day	Condenser & enclosure	RECCD34	PM	11/20/07
REC035		No. 20 Slaker/Causticizers (20 ft)	653 TCaO/day	Scrubber	RECCD35	PM	11/20/07
REC036		White Liquor Clarifier System	1220 TCaO/day	---	---	---	2/25/08
REC037		White Liquor Oxidation	1220 TCaO/day	---	---	---	---
REC039		No. 24 Slaker/Causticizer (24 ft)	1220 TCaO/day	Condenser/vented	RECCD39	PM	2/25/08

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Unbleached Pulp Mill (except recovery furnaces, smelt tanks and lime kilns) continued					
REC040		Lime Mud Storage	1220 TCaO/day	---	---	---	---
REC041		Lime Mudwasher System	1220 TCaO/day	---	---	---	2/25/08
REC043		Lime Mudfilter System	1220 TCaO/day	---	---	---	2/25/08
REC044		Lime Mudfilter Vacuum Separators	1220 TCaO/day	---	---	---	2/25/08
REC048		No. 1, 2, & 3 Lime Bins	310 TCaO/hr	Dust collector	RECCD48	PM	2/25/08
REC049		No. 4 & 5 Lime Bins	420 TCaO/hr	Dust collector	RECCD49	PM	2/25/08
REC050		Dregs Washer System	1220 TCaO/day	---	---	---	2/25/08
REC051		Dregs Filter System	1220 TCaO/day	---	---	---	2/25/08
REC052		Grits Washer System	1220 TCaO/day	---	---	---	---
REC060		Recovery Accumulator	2600 ADTP/day	NCGS/LVHC**	NCGS	VOC, TRS, HAPs	2/25/08
REC061		Waste Heat Evaporator System	2600 ADTP/day	NCGS/LVHC**	NCGS	VOC, TRS, HAPs	11/20/07, 2/25/08
REC062		No 1, 2, 3 Multiple Effect Evaporators	2627 TBLS/day	NCGS/LVHC**	NCGS	VOC, TRS, HAPs	11/20/07, 2/25/08
REC063		No. 4 Multiple Effect Evaporator	3000 TBLS/day	NCGS/LVHC**	NCGS	VOC, TRS, HAPs	11/20/07, 2/25/08

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Unbleached Pulp Mill (except recovery furnaces, smelt tanks and lime kilns) continued					
REC064		No. 1 Condensate Stripper	600 gpm	NCGS/LVHC**	NCGS	VOC, TRS, HAPs	11/20/07, 2/25/08
REC065		No. 1 Incinerator	2600 ADTP/day	Scrubber (NCGS/LVHC**)	RECCD65, NCGS	SO_2, VOC, TRS	11/20/07, 2/25/08, 10/17/18
REC066		No. 4 Condensate Tank	2600 ADTP/day	---	---	---	---
REC070		LVHC Closed Vent System	2600 ADTP/day	NCGS/LVHC**	NCGS	VOC, TRS	11/20/07, 2/25/08
REC071		Condensate Collection System	2600 ADTP/day	NCGS/LVHC**	NCGS	VOC, TRS	11/20/07, 2/25/08
REC072		HVLC Closed Vent System	2600 ADTP/day	NCGS/HVLC***	NCGS	VOC, TRS	---
		Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns					
REC001		No. 1 Recovery Furnace	2627 TBLS/day	ESP	RECCD01	PM	11/20/07, 2/25/08, 2/23/09
REC002		No. 1 Recovery Smelt Dissolving Tank Upriver	2627 TBLS/day	Scrubber	RECCD02	PM, TRS	11/20/07, 2/23/09
REC003		No. 1 Recovery Smelt Dissolving Tank Downriver	2627 TBLS/day	Scrubber	RECCD03	PM, TRS	11/20/07, 2/23/09
REC005		BLOX Tower - #1 Recovery Furnace	2627 TBLS/day	---	---	---	2/25/08
REC010		No. 2 Recovery Furnace	3000 TBLS/day	ESP	RECCD10	PM	11/20/07, 2/25/08
REC011		No. 2 Recovery Smelt Dissolving Tank	3000 TBLS/day	Scrubber	RECCD11	PM, TRS, SO_2	11/20/07

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns continued					
REC045		No. 1 Lime Kiln	347 TCaO/day	venturi scrubber	RECCD45	PM, TRS, SO_2	11/20/07, 2/25/08
REC047		No. 2 Lime Kiln	720 TCaO/day	ESP, venturi scrubber	RECCD47	PM, TRS, SO_2	2/25/08
		Bleaching					
BPM001		A Unit Bleach Line	1200 ODT/day	HAPS Scrubber	BPMCD01	HAPS	2/25/08
BPM002		B Unit Bleach Line	1400 ODT/day	HAPS Scrubber	BPMCD01	HAPS	2/25/08
BPM003		Bleach Room Unbleached Stock Storage	2600 ADT/day	---	---	---	---
BPM004		Bleach Room Deckers	1200 ODT/day	---	---	---	---
BPM005		Bleached Stock Storage	2600 ADT/day	---	---	---	---
BPM006		Brown Water System	2600 ADT/day	---	---	---	---
BPM012		C Bleach Line	1200 ODT/day	HAPS Scrubber	BPMCD12	HAPS	2/25/08
CLO002		ClO2 Liquor System	80 tons/day	---	---	---	---
CLO003		Methanol Storage Tank	30,000 Gallons	---	---	---	---
CLO004		No. 2 ClO2 Plant	80 tons/day	---	---	---	2/25/08

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Paper Machines					
PM1001		No. 1 Paper Machine	2000 ADTFP/day	---	---	---	10/17/18
PM1001a		No. 1 Paper Machine Indirect-fired Natural Gas Dryer	6.8 MMBtu/hr	---	---	---	---
PM1002		No. 1 Paper Machine Stock Storage	2000 ADTFP/day	---	---	---	10/17/18
PM1003		No. 1 Paper Machine Decker	2000 ADTFP/day	---	---	---	10/17/18
PM2001		No. 2 Paper Machine	2000 ADTFP/day	---	---	---	2/25/08
PM2002		No. 2 Paper Machine Stock Storage	2000 ADTFP/day	---	---	---	---
PM2003		No. 2 Paper Machine Decker	2000 ADTFP/day	---	---	---	---
PM8001		No. 8 Paper Machine	1000 ADTFP/day	---	---	---	---
PM8002		1000 ADTFP/day	---	---	---	---	---
PM8003		No. 8 Paper Machine Decker			---	---	---
PPP002		Purchased Pulp Storage	1000 ADTFP/day	---	---	---	---
		Starch Silo					
STK001a		Starch Silo and Slurry System	16.25 tons/hr	Fabric Filter	STKCD01	PM, PM_{10}, $PM_{2.5}$	7/17/17

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Miscellaneous Sources					
WYD003		Slasher	10,000 ton/day	---	---	---	---
WYD004		Debarking Drum	10,000 ton/day	---	---	---	---
WYD005		Chipper	10,000 ton/day	---	---	---	---
WYD006		Chip Screening	10,000 ton/day	---	---	---	---
WTP001		Mix Tanks	35 Mgal/day	---	---	---	---
WTP002		Primary Clarifiers	35 Mgal/day	---	---	---	---
WTP003		Wastewater Cooling Tower	35 Mgal/day	Mist Eliminator	WTPCD03	---	10/17/18
WTP004		Aeration Basin	35 Mgal/day	---	---	---	---
WTP007		Sludge Dewatering System	35 Mgal/day	---	---	---	---
WTP011		No. 1, 2, 3 & 4 Landfills	---	---	---	---	---
WTP012		No. 5 Landfill	---	---	---	---	---
WVC002		General Mill Roads	---	---	---	---	2/25/08
WVC003		Landfill Haul Roads	---	---	---	---	2/25/08

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
		Miscellaneous Sources continued					
WVC004		Gasoline Storage (multiple units)	4525 Gallons	---	---	---	---
WVC005		Air Conditioning System	---	---	---	---	---
WVC012		Woodyard Haul Roads	---	---	---	---	2/25/08

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.
**NCGS/LVHC control device denotes the non-condensable gas system routing low volume, high concentration gasses to combustion control
***NCGS/HVLC control device denotes the non-condensable gas system routing high volume, low concentration gasses to combustion control
Industry abbreviations:

ADTP/day = Air Dried Tons of Pulp per day
ODTP/day = Oven Dried Tons of Pulp per day
TBLS/day = Tons of Black Liquor Solids per day
TCaOday = Tons of Lime per day
ODT/day = Oven Dried Tons (of paper) per day
ADTFP/day = Air Dried Tons of Finished Product per day

Fuel Burning Equipment Requirements - Emergency/Non-emergency Engines (ENG001 – ENG015)

Limitations

1. **Fuel Burning Equipment Requirements – (ENG001 – ENG015) – Limitations** – Visible emissions from the emergency/non-emergency engines (ENG001 – ENG015) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity. The opacity standards for the engines apply at all times except during periods of startup, shutdown and malfunction. (9VAC5-50-20, 9VAC5-50-80 and 9VAC5-80-110)

2. **Fuel Burning Equipment Requirements – (ENG001 – ENG015) – Limitations** – The approved fuel for the emergency/non-emergency engines (ENG001 – ENG015) is diesel fuel. A change in the fuel may require a permit to modify and operate. (9VAC5-80-110)

Monitoring

3. **Fuel Burning Equipment Requirements – (ENG001 – ENG015) – Monitoring** - At least one time in any calendar month the emergency/non-emergency engines (ENG001 – ENG015) operate, an observation of the presence of visible emissions from the emergency/non-emergency engine stacks shall be made. The presence of visible emissions shall require the permittee to:

    a. take timely corrective action such that the engine resumes operation with no visible emissions, or,

    b. conduct a visible emission evaluation (VEE) on the engine stack in accordance with EPA Method 9 (reference 40 CFR 60 Appendix A) for a minimum of six minutes, to assure visible emissions from the affected engine are 20 percent opacity or less. If any of the observations exceed the opacity limitation of 20 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the engine resumes operation within the 20 percent opacity limit.

    The permittee shall maintain an observation log for each engine stack to demonstrate compliance. The logs shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the emergency/non-emergency engines have not been operated for any period during the entire month, it shall be noted in the log book. (9VAC5-50-20 E, 9VAC5-80-110 E and K)

Recordkeeping

4. **Fuel Burning Equipment Requirements – (ENG001 – ENG015) – Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. These records shall include, but are not limited to:

   a. Observation logs required by Condition 3.

   These records shall be available on site for inspection by the DEQ and shall be current for the most recent (5) years.
   (9VAC5-80-110)

MACT Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines (ENG001 – ENG015)

General Compliance Requirements

5. **MACT Subpart ZZZZ – (ENG001 – ENG009) – General Compliance Requirements** – The permittee must be in compliance with the emission limitations, operating limitations and other requirements in Subpart ZZZZ that apply to the source at all times. At all times the permittee shall operate and maintain the affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source.
   (9VAC5-80-110 and 40 CFR 63.6605)

Emission and Operating Limitations

6. **MACT Subpart ZZZZ - (ENG001 – ENG008) – Limitations** – The permittee must comply with the emission limitations and other requirements in Item 1 of Table 2c to Subpart ZZZZ of Part 63.
   (9VAC5-80-110 and 40 CFR 63.6602)

7. **MACT Subpart ZZZZ - (ENG009) – Limitations** – The permittee must comply with the emission limitations and other requirements in Item 3 of Table 2c to Subpart ZZZZ of Part 63.
   a. Compliance with the numerical emission limitations established in 40 CFR 63 Subpart ZZZZ is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 to Subpart ZZZZ of Part 63.

   (9VAC5-80-110 and 40 CFR 63.6602)

8. **MACT Subpart ZZZZ - (ENG010 – ENG015) – Limitations** – For the following engines, ENG010 – ENG015, the permittee must comply with 40 CFR 63, Subpart ZZZZ by complying with the applicable requirements of 40 CFR 60, Subpart IIII, as listed in Conditions 23 through 29. No other requirements of Subpart ZZZZ apply to engines ENG010 – ENG015.
(9VAC5-80-110 and 40 CFR 63.6590(c))

Testing and Initial Compliance Requirements

9. **MACT Subpart ZZZZ – (ENG001 – ENG008) - Operation & Maintenance** - The permittee must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
(9VAC5-80-110 and 40 CFR 63.6625(e))

10. **MACT Subpart ZZZZ – (ENG001 – ENG008) – Operation & Maintenance** – The permittee may utilize an oil analysis program as described in 40 CFR 63.6625(i) to extend the specified oil change requirement in Table 2(c) to Subpart ZZZZ of Part 63. If an oil analysis program is utilized, the analysis program must be part of the maintenance plan for the engine.
(9VAC5-80-110, 40 CFR 63.6625(i))

11. **MACT Subpart ZZZZ – (ENG001 – ENG008) – Operation & Maintenance** - The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.
(9VAC5-80-110 and 40 CFR 63.6625(h))

12. **MACT Subpart ZZZZ - (ENG009) – Testing** – For engine (ENG009), the permittee must conduct an initial compliance demonstration according to Tables 4 and 5 to Subpart ZZZZ of Part 63 within 180 days after the compliance date that is specified for your stationary RICE in 40 CFR 63.6595 and according to the provisions of 40 CFR 63.7(a)(2).
(9VAC5-80-110 and 40 CFR 63.6612(a))

Monitoring

13. **MACT Subpart ZZZZ – (ENG001 – ENG008) – Monitoring** – The permittee shall install a non-resettable hour meter on the existing emergency stationary RICE if one is not already installed.
(9VAC5-50-20 E, 9VAC5-80-110 E and K and 40 CFR 63.6625(f))

Continuous Compliance Requirements

14. **MACT Subpart ZZZZ – (ENG001 – ENG009) - Continuous Compliance Requirements** - The permittee must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Table 2c to Subpart ZZZZ of Part 63 that apply to the source according to the methods specified in Table 6 to Subpart ZZZZ of Part 63.
(9VAC5-80-110, 40 CFR 63.6640(a))

15. **MACT Subpart ZZZZ – (ENG001 – ENG009) – Continuous Compliance Requirements** - The permittee must comply with the applicable requirements in Table 8 to Subpart ZZZZ of Part 63.
(9VAC5-80-110 and 40 CFR 63.6665)

16. **MACT Subpart ZZZZ – (ENG001 – ENG008) - Continuous Compliance Requirements** - In order for the engines to be considered an emergency stationary RICE under Subpart ZZZZ, any operation other than those listed in 40 CFR 63.6640(f), as described in 40 CFR 63.6640(f), is prohibited. If the permittee does not operate the engine according to the requirements in 40 CFR 63.6640(f), the engine will not be considered an emergency engine under Subpart ZZZZ and shall meet all requirements for non-emergency engines.
(9VAC5-80-110 and 40 CFR 63.6640(f))

Notifications, Reports and Recordkeeping

17. **MACT Subpart ZZZZ – (ENG009) – Notifications** – The permittee must submit all of the notifications in 63.7 (b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.
(9VAC5-80-110 and 40 CFR 63.6645(a))

18. **MACT Subpart ZZZZ – (ENG009) – Notifications** –The permittee must submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii), if you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to Subpart ZZZZ of Part 63.
(9VAC5-80-110 and 40 CFR 6645(h))

19. **MACT Subpart ZZZZ – (ENG001 – ENG009) - Reporting** – The permittee must report each instance in which the source did not meet an operating limitation in Items 1 and 3 of Table 2c to Subpart ZZZZ of Part 63, and any applicable requirement included in Table 8 to Subpart ZZZZ of Part 63. The permittee shall report all deviations in the semiannual monitoring reports as outlined in Condition 486.
(9VAC5-80-110, 40 CFR 63.6640(b) and (e) and 40 CFR 63.6650(f))

20. **MACT Subpart ZZZZ – (ENG009) – Reporting** – The permittee must submit each report in Table 7 of Subpart ZZZZ of Part 63 that applies to the source.

a. The semiannual Compliance reports shall be submitted according to the requirements in 40 CFR 63.6650(b)(1)-(5).

i. The Compliance report must contain the information in 40 CFR 63.6650(c)(1)-(6).

ii. For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in Subpart ZZZZ, the Compliance report must contain the information in 40 CFR 63.6650(c)(1)-(4) and 40 CFR 63.6650(d)(1)-(2).

(9VAC5-80-110, 40 CFR 63.6650(a), (b), (c) and (d))

21. **MACT Subpart ZZZZ – (ENG001 – ENG009) – Recordkeeping** - The permittee must keep the following records:

a. A copy of each notification and report that the permittee submitted to comply with Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that the permittee submitted, according to the requirement in §63.10(b)(2)(xiv).

b. Records of the occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment.

c. Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).

d. Records of all required maintenance performed on the air pollution control and monitoring equipment.

e. Records of all actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

f. Records required in Table 6 to Subpart ZZZZ to Part 63 to show continuous compliance with each emission or operating limitation that applies to the permittee.

g. Records of the maintenance conducted on the stationary RICE in order to demonstrate that the source operated and maintained the stationary RICE and after-treatment control device (if any) according to the permittee's maintenance plan.

h. If the oil analysis program described in Condition 10 is implemented, the permittee shall keep records of the parameters that are analyzed as part of the program, the results of the analysis and the oil changes for the engines.

i. If the emergency stationary RICE does not meet the standards in Subpart ZZZZ to Part 63 applicable to non-emergency engines, the permittee shall keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The documentation shall include the information specified in 40 CFR 63.6655(f).

(9VAC5-80-110, 40 CFR 63.6625(i) and 40 CFR 63.6655(a), (d), (e) and (f))

22. **MACT Subpart ZZZZ – (ENG001 – ENG009) – Recordkeeping** - The permittee's records shall be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).

a. As specified in §63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

b. The permittee must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action report, or record, according to §63.10(b)(1).

(9VAC5-80-110 and 40 CFR 63.6660)

NSPS IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (ENG010 – ENG015)

Emission Standards

23. **NSPS IIII – (ENG010 – ENG015) – Emission Standards** – For 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder, the permittee shall comply with the emission standards for new CI engines in 40 CFR 60.4201 for their 2007 model year later stationary CI ICE, as applicable.
(9VAC5-80-110, 40 CFR 60.4204(b))

Fuel Requirements

24. **NSPS IIII – (ENG010 – ENG015) - Fuel Requirements** – The permittee shall purchase diesel fuel that meets the fuel standards of 40 CFR 80.510(b), in accordance with the requirements of 40 CFR 60.4207(b).
(9VAC5-80-110 and 40 CFR 60.4207(b))

Compliance Requirements

25. **NSPS IIII – (ENG010 – ENG015) - Compliance Requirements** – The permittee shall comply with the applicable provisions of 40 CFR 60.4211(a), including but not limited to,

operating and maintaining the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions.
(9VAC5-80-110 and 40 CFR 60.4211(a))

26. **NSPS IIII – (ENG010 – ENG015) – Compliance Requirements** – The permittee shall demonstrate compliance with the emission standards of 40 CFR 60.4204(b) for engines ENG010 – ENG017, by purchasing a certified engine in accordance with 40 CFR 60.4211(c).

    a. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR 60.4211(g).

    (9VAC5-80-110 and 40 CFR 60.4211(c))

27. **NSPS IIII – (ENG010 – ENG015) - Compliance Requirements** – The permittee shall comply with the applicable requirements in Table 8 to Subpart IIII of Part 60.
(9VAC5-80-110 and 40 CFR 60.4218)

Recordkeeping and Reporting

28. **NSPS IIII – (ENG010 – ENG015) - Recordkeeping** - The permittee shall keep the following records:

    a. Records that document that the engine is certified to the emission standards in 40 CFR 60.4204(b).

    b. Records of fuel oil purchases for the engines that document that the fuel oil meets the specifications stated in 40 CFR 80.510(b).

    c. Manufacturer's emission-related written instructions.

    (9VAC5-80-110)

29. **NSPS IIII – (ENG010 – ENG015) - Reporting** - The permittee shall report each instance in which the source did not meet the emission standards in 40 CFR 60.4204(b) and any applicable requirement included in Table 8 to Subpart IIII of Part 60. The permittee shall report all deviations in the semiannual monitoring reports as outlined in Condition 477.
(9VAC5-80-110)

Fuel Burning Equipment Requirements – Powerhouse Boilers (PWR006, PWR009, PWR010, & PWR011)

Limitations

30. **Fuel Burning Equipment Requirements – (PWR006) - Limitations** - The approved fuel for the No. 6 Boiler (PWR006) is coal, natural gas, and No. 2 Fuel Oil (for start-up and flame stabilization). A change in the fuel may require a permit to modify and operate. (9VAC5-80-110 and Condition 28 of the 10/17/18 Permit Document)

31. **Fuel Burning Equipment Requirements – (PWR006) - Limitations** – Emissions of nitrogen oxides from the No. 6 Boiler shall be controlled by the installation of low NO_X burners.
(9VAC5-80-110 and Condition 14 of the 2/25/08 Permit Document)

32. **Fuel Burning Equipment Requirements – (PWR006) - Limitations** - Particulate emissions from the No. 6 Boiler (PWR006) shall be controlled by electrostatic precipitators. (9VAC5-80-110 and 9VAC5-40-900)

33. **Fuel Burning Equipment Requirements – (PWR006) - Limitations** - Emissions from the operation of the No. 6 Boiler shall not exceed the limits specified below:
Nitrogen Oxides (as NO2) 330.0 lbs/hr 1000.0 tons/yr
(9VAC5-80-110 and Condition 70 of the 2/25/08 Permit Document)

34. **Fuel Burning Equipment Requirements – (PWR006 & PWR009) - Limitations** - Sulfur dioxide emissions from the No. 6 Boiler (PWR006) and No. 9 Boiler (PWR009) shall be controlled by flue gas desulfurization scrubbing. The scrubbers shall be provided with adequate access for inspection. All bleach room extraction filtrate waste and boiler house demineralize backwash water that would otherwise be sewered shall be used in the SO2 FGD scrubbers to reduce SO2 emissions below the allowable limits in Condition 36 as much as practicable, until use of RTDM modeling using on-site meteorological data is approved by EPA or compliance with the SO2 ambient standards is demonstrated by an EPA approved alternate model.
(9VAC5-80-110, Condition 9 of the 11/20/07 Permit Document and Condition 4 of the 2/23/09 Permit Document)

35. **Fuel Burning Equipment Requirements – (PWR006 & PWR009) - Limitations** - SO2 emissions from the Nos. 6 and 9 Power Boilers shall be controlled by wet scrubbers or an alternative control device as approved by DEQ to provide equal or greater control. The wet scrubbers shall be provided with adequate access for inspection and shall be in operation when the boilers are operating except during periods of preventative maintenance as provided in a plan approved by DEQ.
(9VAC5-80-110 and Condition 3 of the 5/4/11 Permit Document)

36. **Fuel Burning Equipment Requirements – (PWR006 & PWR009) - Limitations** - Emissions from the operation of the No. 6 and No. 9 Boilers (PWR006 & PWR009) shall not exceed the limits specified below:

Sulfur Dioxide	3,300 lbs/hr	6,817 tons/yr (12-month rolling total)

1,556.35 lbs/hr annual average (demonstrated daily)

Sulfuric Acid[a]	55.0 lbs/hr	126.9 tons/yr

[a] Based on emission factor 0.0139 lb/lb SO2 per NCASI SARA Handbook 95, and hourly 1.2 factor.

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitations have not been exceeded.
(9VAC5-80-110, Condition 24 of the 11/20/07 Permit Document, Condition 57 of the 2/25/08 Permit Document, Condition 15 of the 2/23/09 Permit Document and Condition 8 of the 5/4/11 Permit Document)

37. **Fuel Burning Equipment Requirements (PWR006 & PWR009) – Limitations** – Combined emissions from the operation of Powers Boilers No. 6 and 9 shall not exceed the limits specified below:

Particulate Matter/PM10	166.4 lbs/hr[1]	728.9 tons/yr

(9VAC5-80-110 and Condition 15 of the 2/23/09 Permit Document)

Boiler No. 6 and Boiler No. 9 are subject to MACT DDDDD. See the MACT DDDDD section for additional emission limitations.

38. **Fuel Burning Equipment Requirements – (PWR006 & PWR009) -** Limitations - Visible emissions from the combined stack for the No. 6 and No. 9 Boilers (PWR006 & PWR009) shall not exceed twenty percent (20%) opacity except during one six-minute period in any one hour in which visible emissions shall not exceed sixty percent (60%) opacity.
(9VAC5-80-110 and 9VAC5-40-940)

39. **Fuel Burning Equipment Requirements – (PWR009) - Limitations** - The approved fuel for PWR009 is coal (with natural gas or No. 2 fuel oil for start-up and flame stabilization). A change in the fuel may require a permit to modify and operate.
(9VAC5-80-110 and Condition 9 of the 10/14/14 Permit Document)

40. **Fuel Burning Equipment Requirements – (PWR009) - Limitations** - NO_X emissions from the No. 9 Boiler (PWR009) shall be controlled by a combination of low NO_X burners, overfire air and selective non-catalytic reduction (SNCR) using either urea or ammonia

[1] PM/PM_{10} limits equivalent to 0.07 lbs/MMBtu (modeled emissions from the tall stack)

injection. The SNCR shall be provided with adequate access for inspection. The overfire air and SNCR shall be in operation when PWR009 is operating.
(9VAC5-80-110, Condition 16 of the 2/25/08 Permit Document, Condition 3 of the 2/23/09 Permit Document and Condition 2 of the 10/14/14 Permit Document)

41. **Fuel Burning Equipment Requirements – (PWR009) - Limitations** - Particulate emissions from the No. 9 Boiler (PWR009) shall be controlled by an electrostatic precipitator (ESP). The ESP shall be provided with adequate access for inspection and shall be in operation when PWR009 is operating.
(9VAC5-80-110, Condition 2 of the 2/23/09 Permit Document and Condition 6 of the 10/14/14 Permit Document)

42. **Fuel Burning Equipment Requirements – (PWR009) - Limitations** – PM10 emissions from the No. 9 Power Boiler (PWR009) shall be controlled by an electrostatic precipitator or an alternative control device as approved by DEQ to provide equal or greater control. The electrostatic precipitator or alternative control device shall be provided with adequate access for inspection and shall be in operation when the No. 9 Power Boiler is operating.
(9VAC5-80-110 and Condition 2 of the 2/23/09 Permit Document)

43. **Fuel Burning Equipment Requirements – (PWR009) - Limitations** - Emissions from the operation of the No. 9 Boiler (PWR009) shall not exceed the limits specified below:

PM (filterable)	32.3	lbs/hr	141.4	tons/yr
PM10	54.9	lbs/hr	240.4	tons/yr
PM2.5	54.9	lbs/hr	240.4	tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 66, 67, 68 and 69.
(9VAC5-80-110 and Condition 10 of the 10/14/14 Permit Document)

44. **Fuel Burning Equipment Requirements – (PWR009) - Limitations** - Emissions from the operation of the No. 9 Boiler (PWR009) shall not exceed the limits specified below:

Nitrogen Oxides (as NO2)	242.1 lbs/hr	1060.0 tons/yr

(9VAC5-80-110, Condition 71 of the 2/25/08 Permit Document, Condition 14 of the 2/23/09 Permit Document and Condition 10 of the 10/14/14 Permit Document)

45. **Fuel Burning Equipment Requirements – (PWR009) - Limitations** - Visible emissions from PWR009 shall not exceed 20 percent opacity except during one six-minute period in

any one hour in which visible emissions shall not exceed 27 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.
(9VAC5-80-110 and Condition 11 of the 10/14/14 Permit Document)

46. **Fuel Burning Equipment Requirements – (PWR010) - Limitations** - The approved fuels for the No. 10 Boiler (PWR010) are natural gas, No. 2 fuel oil, No. 4 fuel oil, and No. 6 fuel oil. A change in the fuel may require a permit to modify and operate.
(9VAC5-80-110)

47. **Fuel Burning Equipment Requirements – (PWR010) - Limitations** – Residual oil (No. 6) burned in the No. 10 Boiler shall contain a maximum sulfur content per shipment of 1.0%.
(9VAC5-80-110 and Condition 20 of the 11/20/07 Permit Document)

48. **Fuel Burning Equipment Requirements – (PWR010) - Limitations** - The No. 10 Boiler (PWR010) shall consume no more than 1400 gallons per hour of No. 4 or No. 6 fuel oil. The throughput of oil through the No. 10 Boiler may increase beyond this limit in proportion to the sulfur decrease below one percent (1.0%) as long as compliance with the sulfur dioxide limit in Condition 49 is maintained. The permittee shall maintain records, including certifications, of all oil shipments purchased indicating sulfur content per shipment. These records shall be available for inspection by the DEQ. Such records shall be current for the most recent five years.
(9VAC5-80-110 and Condition 19 of the 11/20/07 Permit Document)

49. **Fuel Burning Equipment Requirements – (PWR010) - Limitations** - Emissions from the operation of the No. 10 Boiler (PWR010) shall not exceed the limits specified below:

    Sulfur Dioxide 220 lbs/hr

    (9VAC5-80-110 and Condition 25 of the 11/20/07 Permit Document)

50. **Fuel Burning Equipment Requirements – (PWR010) - Limitations** - Particulate matter, PM10 and sulfur dioxide emissions from the No. 10 Power Boiler shall be minimized by restricting the fuel source to 90% or more natural gas and by proper boiler operation and maintenance. Utilization of fuel oil for more than 10% of annual heat input of this unit will require a revised BART analysis, and may require amendment of the February 23, 2009 State Operating Permit.
(9VAC5-80-110 and Condition 5 of the 2/23/09 Permit Document)

51. **Fuel Burning Equipment Requirements – (PWR010) - Limitations** - Nitrogen oxide emissions from the No. 10 Power Boiler shall be minimized by proper boiler operation at less than 50% of rated capacity of 2,891,000 MMBtu/yr on an annual basis, calculated monthly, and by proper maintenance. Utilization of more than 50% of rated capacity of this

unit will require a revised BART analysis, and may require amendment of the February 23, 2009 State Operating Permit.
(9VAC5-80-110 and Condition 6 of the 2/23/09 Permit Document)

52. **Fuel Burning Equipment Requirements – (PWR010) - Limitations** - Emissions from the operation of the No. 10 Power Boiler when operating on natural gas shall not exceed the limits specified below:

Particulate Matter/PM10	2.51 lb/hr
Nitrogen Oxides (as NO2)	66.0 lb/hr

(9VAC5-80-110, 9VAC5-80-850, 9VAC5-40-7580 and Condition 16 of the 2/23/09 Permit Document)

53. **Fuel Burning Equipment Requirements – (PWR010) - Limitations** - Particulate emissions from the No. 10 Boiler (PWR010) shall not exceed 0.150 pounds per million BTU input when burning fuel oil as specified in Condition 46.
(9VAC5-80-110 and 9VAC5-40-900)

54. **Fuel Burning Equipment Requirements – (PWR010) - Limitations** - Visible emissions from the No. 10 Boiler (PWR010) shall not exceed twenty percent (20%) opacity except during one six-minute period in any one hour in which visible emissions shall not exceed sixty percent (60%) opacity.
(9VAC5-80-110 and 9VAC5-40-940)

55. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - The approved fuels for the No. 11 Boiler (PWR011) are natural gas and No. 2 fuel oil. A change in the fuel may require a permit to modify and operate.
(9VAC5-80-110 and Condition 42 of the 2/25/08 Permit Document)

56. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - Nitrogen dioxide emissions from the No. 11 Boiler (PWR011) shall be controlled by low-NO_X burners and flue gas recirculation. The No. 11 Boiler shall be provided with adequate access for inspection.
(9VAC5-80-110 and Condition 21 of the 2/25/08 Permit Document)

57. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - The No. 11 Boiler (PWR011) shall consume no more than 3723 x 106 cubic feet of natural gas per year, calculated monthly as the sum of each consecutive 12 month period, except as specified in the next condition.
(9VAC5-80-110 and Condition 43 of the 2/25/08 Permit Document)

58. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - The No. 11 Boiler (PWR011) annual consumption limitation for natural gas specified in the previous condition shall be reduced 276 cubic feet for every 1 gallon of No. 2 fuel oil consumed. (9VAC5-80-110 and Condition 44 of the 2/25/08 Permit Document)

59. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - The No. 11 Boiler (PWR011) shall consume no more than 2,200 thousand gallons of No. 2 fuel oil per year, calculated monthly as the sum of each consecutive 12 month period. The annual capacity factor for No. 2 fuel oil shall not exceed 10 percent.
(9VAC5-80-110 and Condition 45 of the 2/25/08 Permit Document)

60. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - The maximum sulfur content of the No. 2 fuel oil to be burned in the No. 11 Boiler (PWR011) shall not exceed 0.2 percent by weight per shipment. The permittee shall maintain records, including certifications, of all oil shipments purchased. These records shall be available for inspection by the DEQ. Such records shall be current for the most recent five years. (9VAC5-80-110 and Condition 46 of the 2/25/08 Permit Document)

61. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - The permittee shall obtain a certification from the fuel supplier with each shipment of No. 2 fuel oil. If fuel storage is separated for various units, this requirement shall apply only to the No. 11 Boiler (PWR011). The permittee shall inform the Blue Ridge Regional Office at least thirty days before a separation of fuel storage occurs. Each fuel supplier certification shall include the following:

    a. The name of the fuel supplier;

    b. The date on which the No. 2 fuel oil was received;

    c. The volume of No. 2 fuel oil delivered in the shipment;

    d. A statement that the oil complies with the American Society for Testing and Materials specifications for fuel oil number 2; and

    e. The sulfur content of the No. 2 fuel oil.

    (9VAC5-80-110 and Condition 51 of the 2/25/08 Permit Document)

62. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - Emissions from the operation of the No. 11 Boiler (PWR011) shall not exceed the limits specified below:

Particulate Matter	7.1 lbs/hr	10.8 tons/yr
PM-10	7.1 lbs/hr	10.8 tons/yr

Sulfur Dioxide	105.0 lbs/hr	38.5 tons/yr
Nitrogen Oxides(as NO2)	51.0 lbs/hr	93.1 tons/yr
Carbon Monoxide	61.2 lbs/hr	65.2 tons/yr
Volatile Organic Compounds	1.63 lbs/hr	7.1 tons/yr
Sulfuric Acid[a]	4.5 lbs/hr	1.7 tons/yr

*Limits are based on a 30-day rolling average basis.

[a]Based on emission factor 0.043 lb/lb SO2 per NASCI SARA Handbook 95, and hourly 1.2 factor.

(9VAC5-80-110, 40 CFR 60.44b, Conditions 72 and 82 of the 2/25/08 Permit Document)

63. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - The No. 11 Boiler (PWR011) nitrogen oxide emission limit (lbs/MMBTU) from the burning of natural gas and No. 2 fuel oil, shall be determined by the following formula:

NOx limit = (NG*EFNG + DO*EFDO)/[(NG*HCNG + DO*HCDO)/106] where,

NG = natural gas burned (cu. ft.)
DO = No. 2 fuel oil burned (gal.)
EFNG = 50 x 10-6 lb NOx/cu. ft. natural gas
EFDO = 0.0138 lb NOx/gal No. 2 fuel oil
HCNG = heat content of natural gas, 1000 Btu/cu. ft.
HCDO = heat content of No. 2 fuel oil, 138,000 Btu/gal

The permittee shall demonstrate compliance with the NOx emissions standard calculated above on a continuous 30 day rolling average.
(9VAC5-80-110 and Condition 73 of the 2/25/08 Permit Document)

64. **Fuel Burning Equipment Requirements – (PWR011) - Limitations** - Visible Emissions from the No. 11 Boiler (PWR011) shall not exceed ten (10) percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed twenty (20) percent opacity. This condition applies at all times, except during periods of startup, shutdown or malfunction.
(9VAC5-80-110, 40 CFR 60.43b and Conditions 79 and 82 of the 2/25/08 Permit Document)

65. **Fuel Burning Equipment Requirements – (PWR006, PWR009, PWR010 & PWR011)** - Limitations - All boiler emissions shall be controlled by proper operation and maintenance. Boiler operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum.
(9VAC5-80-110)

Monitoring

66. **Fuel Burning Equipment Requirements – (PWR009) – Monitoring** - The SNCR for PWR009 shall be equipped with (a) device(s) to continuously measure and record the ammonia injection rate.
(9VAC5-80-110 and Condition 3 of the 10/14/14 Permit Document)

67. **Fuel Burning Equipment Requirements – (PWR009) – Monitoring** - The overfire air system for PWR009 shall be equipped with (a) device(s) to continuously measure and record the air flow rate and/or damper position.
(9VAC5-80-110 and Condition 4 of the 10/14/14 Permit Document)

68. **Fuel Burning Equipment Requirements – (PWR009) – Monitoring** - Within 45 days of completion of the initial performance test required in Condition 82, the permittee shall submit to DEQ for approval a monitoring plan to ensure proper operation of the NOx emission control system.
9VAC5-80-110 and Condition 5 of the 10/14/14 Permit Document)

69. **Fuel Burning Equipment Requirements – (PWR009) – Monitoring** - The ESP shall be equipped with devices to continuously measure and record: the secondary current (amperage) and secondary voltage, by field, across the ESP or other parameters as approved by DEQ.
(9VAC5-80-110 and Condition 7 of the 10/14/14 Permit Document)

70. **Fuel Burning Equipment Requirements – (PWR009) – Monitoring** - Each monitoring device required in Conditions 66, 67, and 69 and as may be required by the Monitoring Plan (Condition 68) shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the associated control system (SNCR, overfire air, and ESP) is operating.
(9VAC5-80-110 and Condition 8 of the 10/14/14 Permit Document)

71. **Fuel Burning Equipment Requirements - (PWR006 & PWR009) – Monitoring** – Continuous Emission Monitoring Systems shall be installed to measure and record the emissions of sulfur dioxide from the combined stack for the No. 6 and No. 9 Boilers as pounds per hour. The CEMS shall be installed, calibrated, maintained, audited and

operated in accordance with the requirements of 40 CFR 60.13 and Appendix B or VDEQ approved procedures which are equivalent to the requirements of 40 CFR 60.13 and 40 CFR Part 60 Appendix B, and 40 CFR Part 60 Appendix F. Notifications shall be submitted to the Blue Ridge Regional Office.
(9VAC5-80-110, Condition 39 of the 11/20/07 Permit Document, Condition 20 of the 2/23/09 Permit Document and Condition 5 of the 5/4/11 Permit Document)

72. **Fuel Burning Equipment Requirements - (PWR006 & PWR009) – Monitoring** - A flow monitoring system shall be installed to measure and record volumetric gas flow from the combined stack for Power Boilers Nos. 6 and 9 (Tall Stack). The flow monitoring system shall be installed, calibrated, maintained, audited and operated in accordance with DEQ approved procedures which are equivalent to the requirements of 40 CFR Part 75.
(9VAC5-80-110 and Condition 6 of the 5/4/11 Permit Document)

73. **Fuel Burning Equipment Requirements - (PWR006 & PWR009) – Monitoring** – A continuous emission monitor shall continue to operate on the combined stack for Boiler No. 6 and Boiler No. 9 (PWR006 & PWR009) to measure and record the opacity of the particulate matter emitted. Notifications shall be submitted to the Blue Ridge Regional Office.
(9VAC5-80-110 and 9VAC5-40-1000)

74. **Fuel Burning Equipment Requirements - (PWR006 & PWR009) – Monitoring** – The wet scrubbers shall be equipped with devices to continuously monitor water flow and pH. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the scrubbers are operating except during times of monitoring device malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments).
(9VAC5-80-110 and Condition 4 of the 5/4/11 Permit Document)

75. **Fuel Burning Equipment Requirements - (PWR010) – Monitoring** – At least one time per calendar week, while burning oil, an observation of the presence of visible emissions from the No. 10 Boiler (PWR010) stack shall be made. The presence of visible emissions shall require the permittee to:

    a. take timely corrective action such that the No. 10 Boiler (PWR010) resumes operation with no visible emissions, or,

    b. conduct a visible emission evaluation (VEE) on the No. 10 Boiler (PWR010) stack in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the boiler stack are 20 percent opacity or less. If any of the observations exceed the opacity limitation of 20 percent, the

observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that No. 10 Boiler (PWR010) resumes operation within the 20 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve (12) consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspection shows observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the No. 10 Boiler (PWR010) has not been operated for any period during the entire week, it shall be noted in the log book.

A continuous opacity monitor may be substituted for either of these observations.

(9VAC5-80-110 E & K)

76. **Fuel Burning Equipment Requirements - (PWR011) – Monitoring** - A continuous emission monitor shall continue to operate on the No. 11 Boiler to measure and record the amount of nitrogen oxides, and either oxygen or carbon dioxide. The monitor(s) shall be maintained, located, and calibrated in accordance with approved procedures (ref. 40 CFR §60.13 and §60.48b). Notifications as arranged with the Blue Ridge Regional Office shall be submitted to the Blue Ridge Regional Office.
(9VAC5-80-110, 40 CFR 60.48b and Conditions 25 and 82 of the 2/25/08 Permit Document)

77. **Fuel Burning Equipment Requirements - (PWR011) – Monitoring** – At least one time per calendar week, while burning oil, an observation of the presence of visible emissions from the No. 11 Boiler (PWR011) stack shall be made. The presence of visible emissions shall require the permittee to:

a. take timely corrective action such that the No. 11 Boiler (PWR011) resumes operation with no visible emissions, or,

b. conduct a visible emission evaluation (VEE) on the No. 11 Boiler (PWR011) stack in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the boiler stack are 10 percent opacity or less. If any of the observations exceed the opacity limitation of 10 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that No. 11 Boiler (PWR011) resumes operation within the 10 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the No. 11 Boiler (PWR011) has not been operated for any period during the entire week, it shall be noted in the log book. A continuous opacity monitor may be substituted for either of these observations.
(9VAC5-80-110 E & K)

Compliance Assurance Monitoring

78. **Fuel Burning Equipment Requirements – (PWR006 & PWR009) – Compliance Assurance Monitoring (CAM)** -The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the scrubber controlling sulfuric acid from the No. 6 and No. 9 Boilers. For the purposes of this permit, sulfuric acid from the No. 6 and No. 9 Boilers is referred to as "PSEU 1:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-1) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ.
(9VAC5-80-110 and 40 CFR 64.6(c))

79. **Fuel Burning Equipment Requirements – (PWR006 & PWR009) – Compliance Assurance Monitoring (CAM)** -The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the electrostatic precipitator controlling PM10 from the No. 6 Boiler and the No. 9 Boiler. For the purposes of this permit, PM10 from the No. 6 Boiler and the No. 9 Boiler is referred to as "PSEU 2:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-2) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ.
(9VAC5-80-110 and 40 CFR 64.6(c))

80. **Fuel Burning Equipment Requirements – (PWR009) – Compliance Assurance Monitoring (CAM)** -The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the SNCR controlling NO_X from the No. 9 Boiler. For the purposes of this permit, NO_X from the No. 9 Boiler is referred to as "PSEU3:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-3) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457 (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ.
(9VAC5-80-110 and 40 CFR 64.6(c))

Recordkeeping

81. **Fuel Burning Equipment Requirements - (PWR006, PWR009, PWR010, PWR011) – Recordkeeping** - The permittee shall develop a record keeping system or equivalent methodology acceptable to the Department, to maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall, if requested, be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

    a. Consumption of coal, natural gas and No. 2 Fuel Oil for the No. 6 Boiler (PWR006). The annual consumption shall be calculated monthly as the sum of each consecutive twelve (12) month period.

    b. Consumption of coal, natural gas and No. 2 fuel oil in the No. 9 Boiler (PWR009), calculated monthly as the sum of each consecutive 12-month period.

    c. Consumption of natural gas, No. 2 fuel oil, No. 4 fuel oil, and No. 6 fuel oil for the No. 10 Boiler (PWR010), calculated monthly as the sum of each consecutive 12-month period.

    d. Calculation of the annual use of the No. 10 Boiler as a fraction of its rated capacity.

    e. Calculation of the use of oil in the No. 10 Boiler as a fraction of its annual use.

    f. The daily and annual consumption of natural gas and No. 2 fuel oil for the No. 11 Boiler (PWR011). The annual consumption shall be calculated monthly as the sum of each consecutive twelve (12) month period.

    g. Oil shipments purchased, indicating the sulfur content per shipment.

h. All fuel supplier certifications, including coal supplier certifications as to sulfur, and ash content and average BTU value.

i. Continuous monitoring system calibrations and calibration checks.

j. Hourly and annual emissions for SO2 from the Tall Stack using averaging methods approved by the Blue Ridge Regional Office to verify compliance with the lb/hr and ton/yr emissions limitations in Condition 36.

k. Records of nitrogen oxides and carbon dioxide or oxygen emitted from the No. 11 Boiler (PWR011), as measured by continuous emission monitoring.

l. Records of the opacity of the No. 6 and No. 9 Boilers (PWR006 & PWR009) stack, as measured by continuous opacity monitoring.

m. Annual measurements or estimates of the nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide, and volatile organic compounds emitted from the No. 11 Boiler (PWR011). Annual estimated emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

n. Annual measurements or estimates of the nitrogen oxides emitted from the No. 6 Boiler and No. 9 Boiler (PWR006 & PWR009). Annual estimated emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

o. Records of scheduled and unscheduled maintenance and operator training on the electrostatic precipitators, flue gas desulfurization scrubbers, low NO_X burners, overfire air system and selective non-catalytic reduction (SNCR).

p. Observation logs for the No. 10 Boiler (PWR010) and No. 11 Boiler (PWR011) as required by Conditions 75 and 77.

q. Records as required in accordance with 40 CFR §60.49b and §60.7.

r. A copy of the approved NO_X Monitoring Plan as required in Condition 68 and records of results for parameters or emissions monitored to implement the Monitoring Plan.

s. Operation and control device monitoring records as required in Conditions 66, 67, 69 and 70.

t. Operation and control device monitoring records for the SO2 scrubbers as required in Condition 74.

u. Operation and monitoring records for the SO2 CEMS and stack flow monitor required in Conditions 71 and 72.

v. Preventive Maintenance plan for the No. 6 (PWR006) and No. 9 (PWR009) Boilers scrubber as approved by DEQ and records as required by the plan.

w. Results of all stack tests including baseline operating data and visible emission evaluations.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9VAC5-80-110, 40 CFR 60.7, 40 CFR 60.49b, Condition 40 of the 11/20/07 Permit Document, Conditions 82 and 106 of the 2/25/08 Permit Document, Condition 23 of the 2/23/09 Permit Document, Condition 9 of the 5/4/11 Permit Document and Condition 12 of the October 14, 2014 Permit Document)

Testing

82. **Fuel Burning Equipment Requirements - (PWR009) – Testing (Completed)** - Initial performance tests shall be conducted for NO_X, PM (filterable), PM10 and PM2.5 from PWR009 to determine compliance with the emission limits contained in Condition 43 and Condition 44. The tests shall be performed within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Tests shall be conducted and reported and data reduced as set forth in 9VAC5-50-30. The details of the tests are to be arranged with the Blue Ridge Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Blue Ridge Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.
(9VAC5-80-110 and Condition 13 of the 10/14/14 Permit Document)

83. **Fuel Burning Equipment Requirements - (PWR006 & PWR009) - Testing** - Upon request and proper notification by the DEQ, the permittee shall conduct additional performance tests for nitrogen oxides from the No. 6 and/or No. 9 Boilers (PWR006 & PWR009) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110, Condition 96 of the 2/25/08 Permit Document and Condition 21 of the 2/23/09 Permit Document)

84. **Fuel Burning Equipment Requirements - (PWR006 & PWR009) – Testing** – Upon request by the DEQ, the permittee shall conduct performance tests for particulate matter, PM-10 and/or sulfur dioxide from the combined stack for Power Boilers No. 6 (PWR006) and No. 9 (PWR009) (Tall Stack) to demonstrate compliance with the emission limits

contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 21 of the 2/23/09 Permit Document)

85. **Fuel Burning Equipment Requirements - (PWR010) – Testing** - Upon request and proper notification by the DEQ, the permittee shall conduct performance tests for particulate matter, PM10, sulfur dioxide and nitrogen oxides from the No.10 Boiler (PWR010) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110)

86. **Fuel Burning Equipment Requirements - (PWR011) – Testing** – Upon request and proper notification by the DEQ, the permittee shall conduct additional performance tests for particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds and/or sulfuric acid from the No.11 Boiler (PWR011) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 98 of the 2/25/08 Permit Document)

87. **Fuel Burning Equipment Requirements - (PWR011) – Testing** – Upon request and proper notification by the DEQ, the permittee shall conduct additional visible emission evaluations from the No. 11 Boiler (PWR011) to demonstrate compliance with the visible emission limits contained in this permit. The details of the test shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 102 of the 2/25/08 Permit Document)

88. **Fuel Burning Equipment Requirements - (PWR011) – Testing** - A CEMS/COMS quality control program which is equivalent to the requirements of 40 CFR 60.13 and Appendix B or F shall be implemented for the continuous monitoring systems required by the 2/25/08 NSR permit or an applicable NSPS or MACT.
(9VAC5-80-110 and Condition 103 of the 2/25/08 Permit Document)

Reporting

89. **Fuel Burning Equipment Requirements - (PWR011) – Reporting – Excess Emission Reports** - The owner or operator of any affected facility subject to the continuous monitoring requirements for NO_X under 40 CFR 60.48b shall submit reports containing the information recorded under 40 CFR 60.49b(g)(1) through (g)(10) which includes, but is not limited to:

    a. Identification of the steam generating unit operating days when the calculated 30-day average NO_X emission rates are in excess of the NO_X emissions standards under 40 CFR 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken.

(9VAC5-80-110, Condition 82 of the 2/25/08 Permit Document and 40 CFR 60.49b(h) and (i))

Fuel Burning & Ancillary Equipment Requirements – Biomass Boiler - (PWR014, M-1 through M-12, & M-15)

Limitations

90. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - Particulate emissions from the biomass boiler (PWR014) shall be controlled by fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when the boiler is operating. This condition applies at all times except during startup/shutdown of the boiler as defined in the Startup/ Shutdown Plan (SSP) required by Condition 93. (9VAC5-80-110 and Condition 5 of the 10/17/18 Permit Document)

91. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - Nitrogen oxides (NO_X) emissions from the biomass boiler (PWR014) shall be controlled by selective non-catalytic reduction (SNCR). The SNCR shall be provided with adequate access for inspection and shall be in operation when the boiler is operating except for periods of scheduled and non-scheduled maintenance of the SNCR system and startup/shutdown of the boiler as defined in the Startup/Shutdown Plan (SSP) required by Condition 93. (9VAC5-80-110 and Condition 6 of the 10/17/18 Permit Document)

92. **Fuel Burning Equipment Requirements - (PWR014) – Limitations -** Fluorides, sulfur dioxide (SO2), and sulfuric acid mist (H2SO4) emissions from the biomass boiler (PWR014) shall be controlled by wood ash alkalinity and/or dry sorbent injection (DSI). The injection system shall be provided with adequate access for inspection. This condition applies at all times except during startup/shutdown of the boiler as defined in the Startup/Shutdown Plan (SSP) required by Condition 93.
(9VAC5-80-110 and Condition 7 of the 10/17/18 Permit Document)

93. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - The permittee shall develop and maintain a Startup/Shutdown Plan (SSP) for the biomass boiler (PWR014). The SSP shall describe the practices and technology that will be used to minimize the number and duration of startup and shutdown occurrences and the emissions occurring during these scenarios. The initial plan shall be submitted to the Blue Ridge Regional Office for approval no later than 90 days prior to the initial startup of the respective unit. The permittee shall evaluate the SSP for changes, and revise as necessary, based on actions taken to address startup/shutdown issues or when requested by the DEQ. Revisions to the SSP shall be submitted to the Blue Ridge Regional Office for approval within 15 days after such change.
(9VAC5-80-110 and Condition 8 of the 10/17/18 Permit Document)

94. **Ancillary Equipment Requirements – (M-1, M-4, M-7, M-9 through M-12 & M-15) – Limitations** - Particulate emissions from material storage and handling operations (M-1, M-4, M-7, M-9 through M-12) and the sorbent milling operation and associated handling and storage equipment (M-15) shall be controlled by fabric filter. The filter shall be provided with adequate access for inspection and shall be in operation when the respective material handling equipment is operating.
(9VAC5-80-110 and Condition 9 of the 10/17/18 Permit Document)

95. **Ancillary Equipment Requirements - (M-2, M-3, M-5, M-6 & M-8) – Limitations** - Particulate emissions from material handling equipment (M-2, M-3, M-5, M-6, M-8) shall be controlled by enclosure, wet suppression, or equivalent measures demonstrating compliance with Condition 105. The equipment shall be provided with adequate access for inspection.
(9VAC5-80-110 and Condition 10 of the 10/17/18 Permit Document)

96. **Fuel Burning Equipment Requirements (PWR014) – Limitations** - All roads carrying truck traffic associated with the biomass boiler, including but not limited to fuel delivery, ash removal, dry sorbent delivery, activated carbon delivery, and ammonia delivery shall be paved.
(9VAC5-80-110 and Condition 12 of the 10/17/18 Permit Document)

97. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - Fugitive dust and fugitive emission controls shall include the following, or equivalent, as approved by DEQ:

    a. Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, grading of roads, or clearing of land.

    b. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; paving of roadways, and maintenance of roadways in a clean condition.

    c. Installation and use of hoods, fans and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

    d. Open equipment for conveying or transporting materials likely to create objectionable air pollution when airborne shall be covered, or treated in an equally effective manner at all times when in motion.

    e. Prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

f. Dust from material handling and load-outs shall be controlled by wet suppression or equivalent. The wet suppression spray systems shall be operated at optimum design.

g. Reasonable precautions shall be taken to prevent deposition of dirt on public roads and subsequent dust emissions. Trucks leaving the site shall have clean wheels achieved by use of paved roads, a wheel washer, or other equivalent means. Dirt, product, or raw material spilled or tracked onto paved surfaces shall be promptly removed to prevent particulate matter from becoming airborne.

(9VAC5-80-110 and Condition 13 of the 10/17/18 Permit Document)

98. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - The biomass boiler (PWR014) shall consume no more than 823,400 MMBtu per year of natural gas or have a natural gas annual capacity factor (as defined in 40 CFR 60.41b) not to exceed 10%, whichever is less, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total natural gas heat input for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 22 of the 10/17/18 Permit)

99. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - The biomass boiler (PWR014) shall consume no more than 8,234,400 MMBtu per year for all fuels combined, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total heat input (all fuels) for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 23 of the 10/17/18 Permit Document)

100. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - The approved fuel for the biomass boiler (PWR014) is biomass as defined in Condition 101 with natural gas for startup and flame stabilization. A change in the fuel may require a permit to modify and operate.
(9VAC5-80-110 and Condition 27 of the 10/17/18 Permit Document)

101. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - The biomass shall meet the specifications below:

WOOD/BARK excluding any wood that contains chemical treatments or has affixed thereto paint and/or finishing materials or paper or plastic laminates;

Pulp and paper mill residues meeting the criteria contained in 40 CFR 241.4(a)(4)

WSG (Warm Season Grasses) is Switchgrass, Indian grass, and Big Bluestem grass or any blend thereof.

(9VAC5-80-110 and Condition 29 of the 10/17/18 Permit Document)

102. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - Emissions from the operation of the biomass boiler (PWR014) shall not exceed the limits specified below:

Filterable PM	0.015 lbs/MMBtu#		
PM-10	0.02 lbs/MMBtu#	19.8 lbs/hr	82.3 tons/yr
PM-2.5		11.8 lbs/hr	49.4 tons/yr
Sulfur Dioxide	0.06 lbs/MMBtu**		247.0 tons/yr
Nitrogen Oxides	0.12 lbs/MMBtu**		494.1 tons/yr
Carbon Monoxide	0.10 lbs/MMBtu**		411.8 tons/yr
Volatile Organic Compounds		7.9 lbs/hr	33.0 tons/yr
Sulfuric Acid Mist (as H2SO4)		6.9 lbs/hr	28.8 tons/yr
Fluorides (F-)		0.22 lbs/hr	0.9 tons/yr
Mercury 3,200 g/24-hr			

** Limits are based on 30-day rolling average
# Limits do not apply during start-up/shutdown

The biomass boiler (PWR014) is subject to MACT DDDDD. See the MACT DDDDD section for additional emission limitations.
(9VAC5-80-110, 40 CFR 61.52(b), 40 CFR 60.43b, 40 CFR 60.672(a) and Conditions 33, 34, 35 and 36 of the 10/17/18 Permit Document)

103. **Fuel Burning Equipment Requirements - (PWR014) – Limitations** - Visible emissions from the biomass boiler stack shall not exceed 10 percent opacity except during one six minute period per hour which shall not exceed 20 percent opacity as determined using the methods specified in 9VAC5-50-20 A.3. This condition applies at all times except during startup, shutdown, and malfunction.
(9VAC5-80-110, 40 CFR 60.43b(f) and Conditions 33 and 41 of the 10/17/18 Permit Document)

104. **Ancillary Equipment Requirements - (M-1, M-4, M-7, M-9 through M-12 & M-15) – Limitations** - Emissions from the operation of each dust collector controlling material storage and handling operations (M-1, M-4, M-7, M-9 through M-12) and the sorbent milling operation and associated handling and storage equipment (M-15) shall not exceed the limits specified below:

    PM-10 0.005 gr/dscf

    (9VAC5-80-110 and Condition and 37 of the 10/17/18 Permit Document)

105. **Ancillary Equipment Requirements - (M-1 through M-12 & M-15) – Limitations** - The material handling and storage equipment (M-1 through M-12) and the sorbent milling operation and associated handling and storage equipment (M-15) shall have no visible emissions, as determined by EPA Method 22 (reference 40 CFR 60, Appendix A), except for periods not to exceed a total of five minutes during two consecutive hours.
    (9VAC5-80-110 and Condition 42 of the 10/17/18 Permit Document)

Monitoring

106. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - The fabric filter controlling particulate from the biomass boiler (PWR014) shall be equipped with a bag leak detection system. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings. The instrument must be capable of detecting particulate emissions at concentrations reflective of normal operation or 0.001 grains/dscf, whichever is lower. The signal from the bag break detection system shall be recorded continuously.
    (9VAC5-80-110 and Condition 14 of the 10/17/18 Permit Document)

107. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - The DSI controlling fluorides, SO2, and sulfuric acid mist from the biomass boiler (PWR014) shall be equipped with devices to continuously measure and record sorbent feed rate.
    (9VAC5-80-110 and Condition 15 of the 10/17/18 Permit Document)

108. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - The NOx control system for the biomass boiler (PWR014) shall be equipped with devices to continuously measure and record the ammonia injection rate.
    (9VAC5-80-110 and Condition 16 of the 10/17/18 Permit Document)

109. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - Each monitoring device required in Conditions 106, 107 and 108 shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the

respective control device or emission unit is operating. Part of the approved operating procedure for each monitor shall define action levels and the responses taken when action levels are exceeded.
(9VAC5-80-110 and Condition 18 of the 10/17/18 Permit Document)

110. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - The permittee shall sample and analyze as-fired fuel during each calendar month the biomass boiler (PWR014) is operated. Fuel sampling and analysis for gross calorific value (GCV or higher heating value) shall be conducted in accordance with DEQ approved methods. The results of the fuel analysis shall include: GCV (MMBtu/ton, MMBtu/MMcf), company and individual collecting the sample, identification of sampling method used, sample weight, number of samples, date sample collected, location of fuel when sample taken, date of analysis, company and individual conducting the analysis. In lieu of sampling for natural gas, monthly supplier certifications containing this information may be acceptable.

    The sampling frequency may be reduced to quarterly if at least 90% of all results are within one standard deviation of the mean of all sample results. The calculation of the mean shall have a minimum of twelve (12) months of sampling results.
    (9VAC5-80-110 and Condition 31 of the 10/17/18 Permit Document)

111. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - The permittee shall sample and analyze fly ash at least once during each calendar month the biomass boiler (PWR014) is operated. Analysis for alkalinity (as calcium carbonate equivalents) shall be conducted in accordance with DEQ approved methods. The results of the analysis shall be reported to the Blue Ridge Regional Office with the report required in Condition 122 and shall include: results in calcium carbonate equivalents, company and individual collecting the sample, identification of sampling method used, sample weight, number of samples, date sample collected, location where sample taken, date of analysis, company and individual conducting the analysis.

    The sampling frequency may be reduced to quarterly if at least 90% of all results are within one standard deviation of the mean of all sample results. The calculation of the mean shall have a minimum of twelve (12) months of sampling results.
    (9VAC5-80-110 and Condition 32 of the 10/17/18 Permit Document)

112. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - Continuous Emission Monitoring Systems, meeting the design specifications of 40 CFR Part 60, Appendix B, shall be installed to measure and record the emissions of carbon monoxide (CO), nitrogen oxides (NO_X), sulfur dioxide (SO2) in lb/MMBtu and either the oxygen or carbon dioxide content of the flue gases from the biomass boiler (PWR014). The CEMS shall be installed, calibrated, maintained, audited, and operated in accordance with DEQ approved procedures which are equivalent to the requirements of 40 CFR 60.13, Subpart Db and Appendices B and F. Data shall be reduced to 30-day rolling averages per the

procedures in 40 CFR 60 Subpart Db for each pollutant (CO reduction shall be according to NO_X procedures).
(9VAC5-80-110 and Condition 49 of the 10/17/18 Permit Document)

113. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - A flowmeter shall be used to measure the biomass boiler (PWR014) stack gas airflow. The stack gas flowmeter shall be installed, operated, and maintained in accordance with DEQ approved procedures which are equivalent to the provisions of 40 CFR 75 Appendices A and B, with the exception that the relative accuracy test audit (RATA) be performed at least once every four (4) consecutive calendar quarters. The permittee shall submit stack gas flowmeter reports as required by 40 CFR 75 Appendices A and B. The CO, NO_X, and SO2 emissions (ton/yr) shall be calculated from data obtained from the respective continuous emissions monitoring system and the stack gas flowmeter in accordance to the provisions of 40 CFR 75 Appendix F. Data shall be used to demonstrate compliance with the 12-month rolling average (tons/yr) emission standards for each pollutant.
(9VAC5-80-110 and Condition 50 of the 10/17/18 Permit Document)

114. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** – Continuous Opacity Monitoring Systems (COMS), meeting the design specifications of 40 CFR Part 60, Appendix B, shall be installed to measure and record the opacity of emissions from the biomass boiler stack. The COMS shall be installed, calibrated, maintained and operated in accordance with the requirements of 40 CFR 60.13, Subpart Db, and Appendix B or DEQ approved procedures which are equivalent to the requirements of 40 CFR 60.13 and Appendix B. Data shall be reduced to six minute averages.
(9VAC5-80-110 and Condition 51 of the 10/17/18 Permit Document)

115. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - Performance evaluations of the continuous monitoring systems shall be conducted in accordance with 40 CFR Part 60, Appendix B, and shall take place during the performance tests under 9VAC5-50-30 or within 30 days thereafter. One copy of the performance evaluations report shall be submitted to the Blue Ridge Regional Office within 60 days of the evaluation. The continuous monitoring systems shall be installed and operational prior to conducting initial performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation and calibration of the device. A 30 day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 52 of the 10/17/18 Permit Document)

116. **Fuel Burning Equipment Requirements - (PWR014) – Monitoring** - A CEMS/COMS quality control program which meets the requirements of 40 CFR 60.13 and Appendix B or F shall be implemented for all continuous monitoring systems.
(9VAC5-80-110 and Condition 53 of the 10/17/18 Permit Document)

117. **Ancillary Equipment Requirements – (M-15) – Monitoring** – Except as specified in 40 CFR 60.674(d), the permittee must conduct quarterly 30-minute visible emission inspections using EPA Method 22 (40 CFR Part 60, Appendix A-7). The 30-minute visible emission inspection shall be conducted on the baghouse exhaust controlling particulate emissions from the milling equipment (M-15) used for the DSI system, If the milling equipment (M-15) used for the DSI system does not operate for any period during the entire calendar quarter, a 30-minute visible emission inspection shall not be required. The Method 22 test shall be conducted in accordance with the requirements of 40 CFR 60.674(c).

    a. As an alternative to the requirements outlined in 40 CFR 60.674(c), the permittee may use a bag leak detection system as outlined in 40 CFR 60.674(d).

    (9VAC5-80-110, 40 CFR 60.674(c)-(d) and Condition 34 of the 10/17/18 Permit Document)

Compliance Assurance Monitoring

118. **Fuel Burning Equipment Requirements – (PWR014) – Compliance Assurance Monitoring – CAM** - The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the fabric filter controlling PM10 from the No. 1 Boiler (PWR014). For the purposes of this permit, PM10 from the No. 1 Boiler (PWR014) is referred to as "PSEU4:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-4) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ. (9VAC5-80-110 and 40 CFR 64.6(c))

Recordkeeping

119. **Fuel Burning and Ancillary Equipment Requirements - (PWR014 & M-15) – Recordkeeping** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

    a. Daily, monthly, and annual consumption (in tons or MMcf and MMBtu) of biomass and natural gas, separately, in the biomass boiler (PWR014). Annual consumption is calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. All fuel supplier certifications and results of all fuel analysis.

c. Monthly emissions calculations, and all supporting documentation, for SO2, VOC, CO, NO_X, sulfuric acid mist, and PM-10 using calculation methods approved by the Blue Ridge Regional Office to verify compliance with the ton/yr emissions limitations in this permit. Annual emissions are calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

d. Operation and control device monitoring records necessary to demonstrate compliance with the requirements in Conditions 106, 107 and 108.

e. Records of scheduled and unscheduled maintenance which includes records of maintenance for the SNCR system and records of operator training.

f. The Startup/Shutdown Plan (SSP), and any revisions of the plan, required in Condition 93.

g. Monitoring device procedures required in Condition 109.

h. Results of all stack tests, visible emission evaluations, and performance evaluations.

i. Reports required in Condition 122.

j. Continuous monitoring system calibrations and calibration checks, percent operating time, and excess emissions.

k. Periodic inspections required under 40 CFR 60.674(c), including dates and any corrective actions taken, in a logbook (in written or electronic format) or bag leak detection system records as specified in 40 CFR 60.676(b) to document compliance with Condition 117.
(40 CFR 60.676(b)(1) & (2))

l. Records of operation for the milling equipment (M-15) used for the DSI system.

m. Records required by 40 CFR 60.49b.
(40 CFR 60.49b)

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9VAC5-80-110, 40 CFR 60.676(b), 40 CFR 60.49b and Condition 55(a), (d), (e), (h), (i), (j), (k), (l), (m) and (o) of the 10/17/18 Permit Document)

Testing

120. **Fuel Burning Equipment Requirements - (PWR014) – Testing** – To determine compliance with the PM emission limits and opacity limits under 40 CFR 60.43b, the permittee shall conduct an initial performance test as required under 40 CFR 60.8 and shall conduct subsequent performance tests as requested by the DEQ, using the procedures and reference methods as outlined in 40 CFR 60.46b(d)(1) through (d)(7). The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110, 40 CFR 60.46b(d) and Condition 33 of the 10/17/18 Permit Document)

121. **Ancillary Equipment Requirements – (M-15) – Testing** – The permittee shall conduct performance tests for PM in accordance with 40 CFR 60.8 and the applicable test methods and procedures outlined in 40 CFR 60.675(a) and (b). The details of the test shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110, 40 CFR 60.675(a)-(b) and Condition 34 of the 10/17/18 Permit Document)

Reporting

122. **Fuel Burning Equipment Requirements - (PWR014) – Reporting** - Reports for Continuous Monitoring Systems - The permittee shall furnish written reports to the Blue Ridge Regional Office of excess emissions from any process monitored by a continuous monitoring system (COMS/CEMS) on a quarterly basis, postmarked no later than the 30th day following the end of the calendar quarter. These reports shall include, but are not limited to the following information:

    a. The magnitude of excess emissions, any conversion factors used in the calculation of excess emissions, and the date and time of commencement and completion of each period of excess emissions;

    b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the process, the nature and cause of the malfunction (if known), the corrective action taken or preventative measures adopted;

    c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments;

    d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in that report; and

e. Any other information required to comply with 40 CFR Part 60.

(40 CFR 60.49b)

(9VAC5-80-110 Condition 54 of the 10/17/18 Permit Document)

123. **Ancillary Equipment Requirements – (M-15) – Reporting** – The permittee shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set for in 40 CFR 60.672.
(9VAC5-80-110, 40 CFR 60.676(f) and Condition 34 of the 10/17/18 Permit Document)

124. **Ancillary Equipment Requirements – (M-10 & M-15) – Reporting** - Notifications and reports required under 40 CFR 60.670 (NSPS OOO) shall be submitted in accordance with 40 CFR 60.676(k).
(9VAC5-80-110, 40 CFR 60.676(k) and Condition 34 of the 10/17/18 Permit Document)

MACT Subpart DDDDD – Industrial, Commercial, and Institutional Boilers and Process Heaters (PWR006, PWR009, PWR010, PWR011 & PWR014)

Emission Limitations and Work Practice Standards

125. **MACT Subpart DDDDD – (PWR014) - Limitations** - The permittee shall meet each emission limit in Items 1and 9 in Table 1 to Subpart DDDDD of Part 63, except as provided under 40 CFR 63.7522.

a. These standards apply at all times the affected unit is operating, except for periods of startup and shutdown during which time the permittee must comply only with Items 5 and 6 in Table 3 of Subpart DDDDD of Part 63.

(9VAC5-80-110 and 40 CFR 63.7500(a) and (f))

126. **MACT Subpart DDDDD – (PWR006 & PWR009) - Limitations** - The permittee shall meet each emission limit in Items 1, 2 and 3 in Table 2 to Subpart DDDDD of Part 63, except as provided under 40 CFR 63.7522.

a. These standards apply at all times the affected unit is operating, except for periods of startup and shutdown during which time the permittee must comply only with Items 5 and 6 in Table 3 of Subpart DDDDD of Part 63.

(9VAC5-80-110 and 40 CFR 63.7500(a) and (f))

127. **MACT Subpart DDDDD – (PWR006, PWR009 & PRW014) - Limitations** - The permittee shall meet each operating limit in Table 4 to Subpart DDDDD of Part 63 that applies to each boiler. If you use a control device or combination of control devices not

covered in Table 4 to Subpart DDDDD of Part 63, or you wish to establish and monitor an alternative operating limit or an alternative monitoring parameter, you must apply to the EPA Administrator for approval of alternative monitoring under 40 CFR 63.8(f).

a. The permittee shall meet these requirements at all times the affected unit is operating, except as provided in 40 CFR 63.7500(f).

(9VAC5-80-110 and 40 CFR 63.7500(a))

128. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PRW014) - Limitations** - The permittee shall at all times, operate and maintain any affected source (as defined in 40 CFR 63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
(9VAC5-80-110 and 40 CFR 63.7500(a))

General Compliance Requirements

129. **MACT Subpart DDDDD – (PWR014) - General Compliance Requirements** – The permittee shall comply with the applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters 40 CFR 63, Subpart DDDDD as listed in Conditions 125 through 183 by the applicable compliance date specified in 40 CFR 63.7495(a).
(9VAC5-80-110 and 40 CFR 63.7495)

130. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010 & PWR011) - General Compliance Requirements** – The permittee shall comply with the applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters 40 CFR 63, Subpart DDDDD as listed in Conditions 125 through 183 by the applicable compliance date specified in 40 CFR 63.7495(b).
(9VAC5-80-110 and 40 CFR 63.7495)

131. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) - General Compliance Requirements** - The permittee shall comply with the emission limits, work practice standards, and operating limits in 40 CFR 63 Subpart DDDDD. These limits apply to you at all times the affected unit is operating except for the periods noted in 40 CFR 63.7500(f).

(9VAC5-80-110 and 40 CFR 63.7505(a))

132. **MACT Subpart DDDDD – (PWR006, PWR009 and PWR014) - General Compliance Requirements** - The permittee shall demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS), or particulate matter continuous parameter monitoring system (PM CPMS), where applicable. The permittee may demonstrate compliance with the applicable emission limit for hydrogen chloride (HCl), mercury, or total selected metals (TSM) using fuel analysis if the emission rate calculated according to 40 CFR 63.7530(c) is less than the applicable emission limit. Otherwise, the permittee shall demonstrate compliance for HCl, mercury, or TSM using performance stack testing.
(9VAC5-80-110 and 40 CFR 63.7505(c))

133. **MACT Subpart DDDDD – (PWR006, PWR009 and PWR014) – General Compliance Requirements** - Should the permittee demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits through the use of CPMS, or with a CEMS or COMS, the permittee shall develop a site-specific monitoring plan according to the requirements in 40 CFR 63.7505(d)(1)-(4) for the use of any CEMS, COMS or CPMS. This requirement also applies should the permittee petition the EPA Administrator for alternative monitoring parameters under 40 CFR 63. 8(f).
(9VAC5-80-110 and 40 CFR 63.7505(d))

134. **MACT Subpart DDDDD – (PWR006, PWR009 and PWR014) – General Compliance Requirements** - Should the permittee choose to comply using definition (2) of "startup" in 40 CFR 63.7575, the permittee shall develop and implement a written startup and shutdown plan (SSP) according to the requirements in Table 3 to Subpart DDDDD of Part 63.

    a. The SSP shall be maintained onsite and available upon request for public inspection.

    (9VAC5-80-110 and 40 CFR 63.7505(e))

135. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) – General Compliance Requirements** - The permittee shall comply with the applicable General Provisions as specified in Table 10 to Subpart DDDDD of Part 63.
(9VAC5-80-110 and 40 CFR 63.7565)

Testing, Fuel Analyses and Initial Compliance Requirements

136. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Initial Compliance Requirements** – For each boiler that the permittee elects to demonstrate compliance with any of the applicable emission limits in Table 1 or 2 of Subpart DDDDD of Part 63 through

performance (stack) testing, your initial compliance requirements shall include all the following:

a. Conduct performance tests according to §63.7520 and Table 5 to Subpart DDDDD of Part 63.

b. Conduct a fuel analysis for each type of fuel burned in your boiler according to 40 CFR 63.7521 and Table 6 to Subpart DDDDD of Part 63, except as specified in 40 CFR 63.7510(a)(2)(i) through (iii).

c. Establish operating limits according to §63.7530 and Table 7 to Subpart DDDDD of Part 63.

d. Conduct CMS performance evaluations according to §63.7525.

(9VAC5-80-110 and 40 CFR 63.7510(a))

137. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Initial Compliance Requirements** – The permittee shall conduct a performance test for CO according to Table 5 to Subpart DDDDD of Part 63 or conduct a performance evaluation of your continuous CO monitor, if applicable, according to 40 CFR 63.7525(a).

a. Boilers that use a CO CEMS to comply with the applicable alternative CO CEMS emission standard listed in Tables 1 and 2, to Subpart DDDDD of Part 63, as specified in 40 CFR 63.7525(a), are exempt from the initial CO performance testing and oxygen concentration operating limit requirements specified in 40 CFR 63.7525(a).

(9VAC5-80-110 and 40 CFR 63.7510(c))

138. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Initial Compliance Requirements** – The permittee shall conduct a performance test in accordance with 40 CFR 63.7520 and Table 5 to Subpart DDDDD of Part 63, to demonstrate initial compliance for PM (filterable particulate matter).
(9VAC5-80-110 and 40 CFR 63.7510(d))

139. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010 & PWR011) - Initial Compliance Requirements** – For existing affected sources (as defined in 40 CFR 63.7490), the permittee shall complete the initial compliance demonstrations as specified in 40 CFR 63.7510(a)-(d), no later than 180 days after the compliance date that is specified for your source in 40 CFR 63.7495 and according to the applicable provisions in 40 CFR 63.7(a)(2) as cited in Table 10 to Subpart DDDDD of Part 63, except as specified in 40 CFR 63.7510(j).

a. The permittee shall complete an initial tune-up by following the procedures described in 40 CFR 63.7540(a)(10)(i) through (vi) no later than the compliance date specified in 40 CFR 63.7495, except as specified in 40 CFR 63.7510(j).

b. The permittee shall complete the one-time energy assessment specified in Table 3 to Subpart DDDDD of Part 63 no later than the compliance date specified in 40 CFR 63.7495.

(9VAC5-80-110 and 40 CFR 7510(e))

140. **MACT Subpart DDDDD – (PWR014) - Initial Compliance Requirements** – For new or reconstructed affected sources (as defined in 40 CFR 63.7490), the permittee shall complete the initial compliance demonstration with the emission limits no later than July 30, 2013 or within 180 days after startup of the source, whichever is later.

a. The permittee shall demonstrate initial compliance with the applicable work practice standards in Table 3 to Subpart DDDDD of Part 63 within the applicable annual, biennial, or 5-year schedule as specified in 40 CFR 63.7515(d) following the initial compliance date specified in 40 CFR 63.7495(a). Thereafter, the permittee is required to complete the applicable annual, biennial or 5-year tune-up as specified in 40 CFR 63.7515(d).

(9VAC5-80-110 and 40 CFR 63.7510(f) and (g))

141. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Initial Compliance Requirements** – The permittee shall conduct all applicable performance tests according to 40 CFR 63.7520 on an annual basis, except as specified in paragraphs (a) and (b) below. Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified in paragraphs (a) and (b) below:

a. If your performance tests for a given pollutant for at least 2 consecutive years shows that your emissions are at or below 75 percent of the emission limit for the pollutant, and if there are no changes in the operation of the individual boiler or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the previous performance test. If you elect to demonstrate compliance using emission averaging under 40 CFR 63.7522, you must continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum mercury input level is waived unless the stack test is conducted for mercury. The requirement to test at maximum TSM input level is waived unless the stack test is conducted for TSM.

b. If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit for a pollutant, the permittee shall conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit, as specified in Tables 1 and 2 of Subpart DDDDD of Part 63).

(9VAC5-80-110 and 40 CFR 63.7515(a), (b) and (c))

142. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) – Initial Compliance Requirements** – The permittee shall conduct an annual tune-up according to 40 CFR 63.7540(a)(10). Each annual tune-up specified 40 CFR 63.7540(a)(10) must be no more than 13 months after the previous tune-up. For a new affected source, the first annual tune-up shall be conducted no later than 13 months after April 1, 2013 or the initial startup of the affected source, whichever is later. (9VAC5-80-110 and 40 CFR 63.7515(d))

143. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Initial Compliance Requirements** – The permittee shall report the results of performance tests and the associated fuel analyses within 60 days after the completion of the performance tests. This report must also verify that the operating limits for each boiler or process heater have not changed or provide documentation of revised operating limits established according to 40 CFR 63.7530 and Table 7 to Subpart DDDDD of Part 63, as applicable.

a. The reports for all subsequent performance tests must include all applicable information required in 40 CFR 63.7550.

(9VAC5-80-110 and 40 CFR 63.7515(f))

144. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Initial Compliance Requirements** – The permittee shall conduct all performance tests according to 40 CFR 63.7(c), (d), (f), and (h). The permittee shall also develop a site-specific stack test plan according to the requirements in §63.7(c) and conduct all performance tests according to the requirements in 40 CFR 63.7520(a), (b), (c), (d), (e) and (f). (9VAC5-80-110 and 40 CFR 63.7520(a), (b), (c), (d), (e) and (f))

145. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Initial Compliance Requirements** – For solid fuels, the permittee shall conduct fuel analyses for chloride and mercury according to the procedures in 40 CFR 63.7521(b) through (e) and Table 6 to Subpart DDDDD of Part 63, as applicable. The permittee shall conduct fuel analyses for TSM if the permittee opts to comply with the TSM alternative standard.

a. The permittee is not required to conduct fuel analyses for fuels used for only startup, unit shutdown and transient flame stability purposes.

i. Gaseous and liquid fuels are exempt from the sampling requirements in 40 CFR 63.7521(c) and (d)

(9VAC5-80-110 and 40 CFR 63.7521(a))

146. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Initial Compliance Requirements** – The permittee shall develop a site-specific fuel monitoring plan according to the procedures in 40 CFR 63.7521(b)(1) and (2), if you are required to conduct fuel analyses as specified in 40 CFR 63.7510.
(9VAC5-80-110 and 40 CFR 63.7521(b))

147. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Initial Compliance Requirements** – The permittee shall obtain composite fuel samples for each fuel type according to the procedures in 40 CFR 63.7521(c)(1) or (2) or the methods listed in Table 6 to Subpart DDDDD of Part 63 or use an automated sampling mechanism that provides representative composite fuel samples for each fuel type that includes both coarse and fine material.

a. For fuel analyses as part of a performance stack test, as specified in §63.7510(a), the permittee shall obtain a composite fuel sample during each performance test run.

i. The permittee shall prepare each composite sample according to the procedures in 40 CFR 63.7521(d)(1)-(7).

(9VAC5-80-110 and 40 CFR 63.7521(c) and (d))

148. **MACT Subpart DDDDD – (PWR006 & PWR009) - Initial Compliance Requirements** – As an alternative to meeting the requirements of 40 CFR 63.7500 for PM (or TSM), HCl, or mercury on a boiler or process heater-specific basis, the permittee may demonstrate compliance by emissions averaging if the facility has more than one existing boiler in any subcategories and the averaged emissions are not more than 90 percent of the applicable emission limit according to the procedures in 40 CFR 63.7522.

a. The permittee may not include new boilers or process heaters in an emissions average.

(9VAC5-80-110 and 40 CFR 63.7522(a))

149. **MACT Subpart DDDDD – (PWR006 & PWR009) - Initial Compliance Requirements** – For a group of two or more existing affected units, each of which vents through a single common stack, the permittee may average PM (or TSM), HCl, or mercury emissions to demonstrate compliance with the limits for that pollutant in Table 2 to Subpart DDDDD of Part 63.

a. The permittee shall satisfy the requirements in 40 CFR 63.7522(i) or (j).

(9VAC5-80-110 and 40 CFR 63.7522 (h))

150. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Initial Compliance Requirements** – If the boiler is subject to a CO emission limit in Tables 1 or 2 to Subpart DDDD of Part 63, the permittee must install, operate, and maintain an oxygen analyzer system, as defined in 40 CFR63.7575, or install, certify, operate and maintain continuous emission monitoring systems for CO and oxygen (or carbon dioxide (CO2)) according to the procedures in (a)(1) through (6) of 40 CFR 63.7525.
(9VAC5-80-110 and 40 CFR 63.7525(a))

151. **MACT Subpart DDDDD – (PWR006 & PWR009) - Initial Compliance Requirements** – If the permittee demonstrates compliance with the PM limit instead of the alternative TSM limit, and the boiler or process heater is in the unit designed to burn coal/solid fossil fuel subcategory and has an annual heat input rate greater than 250 MMBtu per hour, the permittee shall install, maintain and operate a PM CPMS to monitor emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (b)(1) through (4) of 40 CFR 63.7525.

    a. As an alternative to use of a PM CPMS to demonstrate compliance with the PM limit, the permittee may choose to use a PM CEMS to demonstrate compliance with the PM limit instead of the alternative TSM limit. The permittee shall install, certify, maintain and operate a PM CEMS to monitor emissions discharged to the atmosphere and record the output of the system as specified in 40 CFR 63.7525(b)(5) through (b)(8).

        i. For other boilers, the permittee may elect to use a PM CPMS or PM CEMS operated in accordance with 40 CFR 63.7525 in lieu of using other CMS for monitoring PM compliance (e.g. bag leak detectors, ESP secondary power and PM scrubber pressure)

    (9VAC5-80-110 and 40 CFR 63.7525(b))

152. **MACT Subpart DDDDD – (PWR014) – Initial Compliance Requirements** – If you have an applicable opacity operating limit in 40 CFR 63 Subpart DDDDD, and are not otherwise required or elect to install and operate a PM CPMS, PM CEMS, or a bag leak detection system, the permittee must install, operate, certify and maintain each COMS according to the procedures in 40 CFR 63.7525(c)(1) through (7) by the compliance date specified in 40 CFR 63.7495.
(9VAC5-80-110 and 40 CFR 63.7525(c))

153. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Initial Compliance Requirements** – The permittee shall install, operate and maintain each CMS according to the procedures in 40 CFR 63.7525(d)(1)-(5) by the compliance date specified in 40 CFR

63.7495, if you have an operating limit that requires the use of a CMS other than a PM CPMS or COMS.

a. The permittee shall meet the applicable requirements in 40 CFR 63.7525(e), (f), (g), (h), (i), (j), (l) and (m).

(9VAC5-80-110 and 40 CFR 63.7525(d), (e), (f), (g), (h), (i), (j), (l) and (m))

154. **MACT Subpart DDDDD – (PWR006 & PWR009) - Initial Compliance Requirements** –If your unit is subject to a HCl emission limit in Table 2 to Subpart DDDDD of Part 63 and you have an acid gas wet scrubber or dry sorbent injection technology and you elect to use an SO2 CEMS to demonstrate continuous compliance with the HCl emission limit, you must install the monitor at the outlet of the boiler or process heater downstream of all emission control devices.

a. The permittee shall install, certify, operate and maintain the CEMS according to either 40 CFR Part 60 or Part 75; and in accordance with 40 CFR 63.7525(m)(1)-(6).

(9VAC5-80-110 and 40 CFR 63.7525(m))

155. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Initial Compliance Requirements** – The permittee shall demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuels analyses and establishing operating limits, as applicable according to 40 CFR 63.7520, 40 CFR 63.7530(b) and (c) and Tables 5 and 7 to Subpart DDDDD of Part 63.

a. The requirement to conduct a fuel analysis is not applicable for units that burn a single type of fuel, as specified in 40 CFR 63.7510(a)(2).

b. If applicable, you must install, operate and maintain all applicable CMS (including CEMS, COMS and CPMS) according to 40 CFR 63.7525.

(9VAC5-80-110 and 40 CFR 63.7530(a))

156. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Initial Compliance Requirements** – If you demonstrate compliance through performance stack testing, the permittee shall establish each site-specific operating limit in Table 4 to Subpart DDDDD of Part 63 that applies to you according to the requirements in 40 CFR 63.7520, Table 7 to Subpart DDDDD of Part 63 and 40 CFR 63.7530 (b)(4), as applicable.

a. The permittee must also conduct fuel analyses according to 40 CFR 63.7521 and establish maximum fuel pollutant input levels according to 40 CFR 63.7530(b)(1) through (3), as applicable and as specified in 40 CFR 63.7510(a)(2).

b. Should you switch fuel(s) and cannot show that the new fuel(s) does (do) not increase chlorine, mercury or TSM input into the unit through the results of fuel analysis, then you must repeat the performance test to demonstrate compliance while burning the new fuel(s).

c. As indicated in Table 4 to Subpart DDDDD of Part 63, you are not required to establish and comply with the operating parameter limits when you are using a CEMS to monitor and demonstrate compliance with the applicable emission limit for that control device parameter.

(9VAC5-80-110 and 40 CFR 63.7530(b))

157. **MACT Subpart DDDDD – (PWR006, PWR009, PWR10, PWR011 & PWR014) - Initial Compliance Requirements** – The permittee shall include with the Notification of Compliance a signed certification that either the energy assessment was completed according to Table 3 to Subpart DDDDD of Part 63, and that the assessment is an accurate depiction of you facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

a. The permittee shall submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.7545(e).

(9VAC5-80-110 and 40 CFR 63.7530(e) and (f))

158. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Initial Compliance Requirements** – If you own or operate a unit subject to emission limits in Tables 1 or 2 to Subpart DDDDD of Part 63, the permittee shall meet the work practice standard according to Table 3 to Subpart DDDDD of Part 63. During startup and shutdown, the permittee shall only follow the work practice standards according to Items 5 and 6 of Table 3 to Subpart DDDDD of Part 63.
(9VAC5-80-110 and 40 CFR 63.7530(h))

159. **MACT Subpart DDDDD – (PWR006 & PWR009) - Initial Compliance Requirements** – The permittee may opt to comply with the alternative SO2 CEMS operating limit in Tables 4 and 8 to Subpart DDDDD of Part 63, only if your affected boiler meets the following requirements:

a. Has a system using a wet scrubber or dry sorbent injection and SO2 CEMS installed on the unit; and

b. At all times, the permittee shall operate the wet scrubber or dry sorbent injection for acid gas control on the unit consistent with 40 CFR 63.7500(a)(3); and

c. The permittee shall establish a unit-specific maximum SO2 operating limit by collecting the maximum SO2 emission rate on the SO2 CEMS during the paired 3-run test for HCl. The maximum SO2 operating limit is equal to the highest hourly average SO2 concentration measured during the HCl performance test.

(9VAC5-80-110 and 40 CFR 63.7530(h))

Continuous Compliance Requirements

160. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Continuous Compliance Requirements** – The permittee shall monitor and collect data according to 40 CFR 637535(a), (b), (c) and (d) and the site specific monitoring plan required by 40 CFR 63.7505(d).
(9VAC5-80-110 and 40 CFR 63.7535(a), (b), (c) and (d))

161. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) - Continuous Compliance Requirements** – The permittee shall demonstrate continuous compliance with each emission limit in Tables 1 and 2 to Subpart DDDDD of Part 63, the work practice standards in Table 3 to Subpart DDDDD of Part 63, and the operating limits in Table 4 to Subpart DDDDD of Part 63 that applies to you according to the methods specified in Table 8 to Subpart DDDDD of Part 63 and 40 CFR 63.7540 (a)(1)-(19), as applicable.

a. As specified in 40 CFR 63.7555(d), the permittee must keep records of the type and amount of all fuels burned in each boiler during the reporting period to demonstrate all fuel types and mixtures of fuels burned would result in either 40 CFR 63.7540(a)(2)(i) or (a)(2)(ii).

(9VAC5-80-110 and 40 CFR 63.7540(a))

162. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Continuous Compliance Requirements** – If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel or a new mixture of fuels, the permittee shall meet the requirements specified in 40 CFR 63.7540(a)(4).
(9VAC5-80-110 and 40 CFR 63.7540(a))

163. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Continuous Compliance Requirements** – If you demonstrate compliance with an applicable mercury emission limit through performance testing and you plan to burn a new type of fuel or a new mixture of fuels, the permittee shall meet the requirements specified in 40 CFR 63.7540(a)(6).
(9VAC5-80-110 and 40 CFR 63.7540(a))

164. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Continuous Compliance Requirements** – To demonstrate compliance with the applicable CO CEMS emission limit in Tables 1 or 2 to Subpart DDDDD of Part 63, the permittee shall meet the requirements in 40 CFR 63.7540(a)(8)(i) through (iv).
(9VAC5-80-110 and 40 CFR 63.7540(a))

165. **MACT Subpart DDDDD – (PWR006 & PWR009) - Continuous Compliance Requirements** – The permittee shall install, certify, operate and maintain the PM CPMS or PM CEMS in accordance with your site-specific monitoring plan as required by 40 CFR 63.7505(d).
(9VAC5-80-110 and 40 CFR 63.7540(a))

166. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) - Continuous Compliance Requirements** – The permittee shall conduct an annual tune-up of the boiler to demonstrate continuous compliance as specified in 40 CFR 63.7540(a)(10)(i) –(vi). The permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of heat input to the boiler or process heater over the 12 months prior to the tune-up.

    a. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

    (9VAC5-80-110 and 40 CFR 63.7540(a))

167. **MACT Subpart DDDDD – (PWR006 & PWR009) - Continuous Compliance Requirements** – If you demonstrate continuous PM emissions compliance with a PM CPMS you will use a PM CPMS to establish a site-specific operating limit corresponding to the results of the performance test demonstrating compliance with the PM limit. The permittee shall conduct your performance test using the test method criteria in Table 5 to Subpart DDDDD of Part 63 and shall use the PM CPMS to demonstrate continuous compliance with this operating limit. The permittee shall repeat the performance test annually and reassess and adjust the site-specific operating limit in accordance with the results of the performance test.

    a. To determine continuous compliance, the permittee shall meet the requirements outlined in 40 CFR 63.7540(18)(i)-(iii).

    (9VAC5-80-110 and 40 CFR 63.7540(a))

168. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) - Continuous Compliance Requirements** – The permittee shall report each instance in which you did not meet each emission limit and operating limit in Tables 1 through 4 of Subpart DDDDD of Part 63 that apply to you. These instances are deviations from the

emission limits or operating limits, respectively, in 40 CFR 63 Subpart DDDDD. These deviations must be reported according to the requirements in 40 CFR 63.7550. (9VAC5-80-110 and 40 CFR 63.7540(b))

169. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) - Continuous Compliance Requirements** – For startup and shutdown, the permittee shall meet the work practice standards according to Items 5 and 6 of Table 3 to Subpart DDDDD of Part 63. (9VAC5-80-110 and 40 CFR 63.7540(d))

170. **MACT Subpart DDDDD – (PWR006 & PWR009) - Continuous Compliance Requirements** – If the permittee chooses to demonstrate compliance with the emissions averaging provision as outlined in Condition 148, the permittee shall demonstrate compliance with the emissions averaging provision on a continuous basis by meeting the applicable requirements of 40 CFR 63.7541(a)(1)-(5). (9VAC5-80-110 and 40 CFR 63.7541(a))

Notifications, Reports and Recordkeeping

171. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) - Notifications** – The permittee shall submit the following notifications:

    a. All of the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (6) and 63.9(b) through (h) that apply to the permitted facility by the dates specified.

    b. As specified in 40 CFR 63.9(b)(2), if you startup your affected source before January 31, 2013, the permittee shall submit an Initial Notification not later than 120 days after January 31, 2013.

    c. As specified in 40 CFR 63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, the permittee shall submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.

    d. For each initial compliance demonstration as specified in §63.7530, the permittee shall submit a Notification of Compliance according to §63.9(h)(2)(ii). For the initial demonstration for each boiler or process heater, you shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to 40 CFR 63.10(d)(2).

        i. The Notification of Compliance Status Report shall contain all the information specified in paragraphs 40 CFR 63.7545(e)(1)-(8), as applicable.

ii. If you are not required to conduct an initial compliance demonstration as specified in 40 CFR 63.7520(a), the Notification of Compliance Status shall only contain the information specified in 40 CFR 63.7520 (e)(1) and (8) and shall be submitted within 60 days of the compliance date specified at 40 CFR 63.7495(b).

e. If you are required to conduct a performance test, the permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.

(9VAC5-80-110 and 40 CFR 63.7545 (a), (b), (c), (d) and (e))

172. **MACT Subpart DDDDD – (PWR010 & PWR011) - Notifications** – If you own or operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to 40 CFR 63 Subpart DDDDD, and you intend to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of Part 63, 60, 61 or 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in 40 CFR 63.7575, the permittee must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in 40 CFR 63.7575.

a. The notification must include the information specified in 40 CFR 63.7545(f)(1)-(5).

(9VAC5-80-110 and 40 CFR 63.7545(f))

173. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) - Reporting** – The permittee shall submit the following reports:

a. Each report in Table 9 to Subpart DDDDD of Part 63 that applies to the permitted facility. The permittee must submit each report, according to 40 CFR 63.7550(h), by the date in Table 9 to Subpart DDDDD of Part 63 and according to the requirements in 40 CFR 63.7550(b)(1)-(4).

b. For units that are subject only to a requirement to conduct subsequent annual, biennial, or 5-year tune-up according to 40 CFR 63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or operating limits specified in Table 4 to Subpart DDDDD of Part 63, the permittee shall submit only an annual, biennial, or 5-year compliance report, as applicable as specified in 40 CFR 63.7550(b)(1)-(4).

(9VAC5-80-110 and 40 CFR 63.7550(a) and (b))

174. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) - Reporting** – The compliance report shall contain the following information depending on how the facility choses to comply with the limits set in 40 CFR 63 Subpart DDDDD:

a. If the facility is subject to the requirements of a tune-up, the permittee must submit a compliance report with the information in 40 CFR 63.7550(c)(5)(i) through (iii), (xiv) and (xvii).

b. If you are complying with the applicable emissions limit with performance testing you must submit a compliance report with the information in 40 CFR 63.7550(c)(5)(i) through (iii), (vi), (vii), (viii), (ix), (xi), (xiii), (xv), (xviii), and 40 CFR 63.7550(d).

c. If you are complying with an emissions limit using a CMS the compliance report must contain the information in 40 CFR 63.7550(c)(5)(i) through (iii), (v), (vi), (xi) through (xiii), (xv) through (xviii) and 40 CFR 63.7550(e).

d. For each deviation from an emission or operating limit in 40 CFR 63 Subpart DDDDD that occurs at an individual boiler where you are not using a CMS to comply with that emission limit or operating limit, or from the work practice standards for periods of startup and shutdown, the compliance report must additionally contain the information required in 40 CFR 63.7550(d)(1) through (3).

e. For each deviation from an emission limit, operating limit and monitoring requirement in 40 CFR 63 Subpart DDDDD occurring at an individual boiler where you are using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information in 40 CFR 63.7550(e)(1) through (9). This includes any deviations from your site-specific monitoring plan as required in 40 CFR 63.7505(d).

(9VAC5-80-110 and 40 CFR 63.7550(c), (d) and (e))

175. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) – Reporting** – The permittee shall submit the reports according to the procedures specified in 40 CFR 63.7550(h)(1)-(3).

a. The reports referenced above shall also be submitted to the attention of the Air Compliance Manager, Blue Ridge Regional Office.

(9VAC5-80-110 and 40 CFR 63.7550(h))

176. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) – Recordkeeping** – The permittee shall keep records according to 40 CFR 63.7555(a)(1) and (2). These records shall include:

a. A copy of each notification and report that you submitted to comply with 40 CFR 63 Subpart DDDDD, including all documentation supporting any Initial Notification or

Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

b. Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).

(9VAC5-80-110 and 40 CFR 63.7555(a))

177. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Recordkeeping** – For each CEMS, COMS and continuous monitoring system, the permittee shall keep records according to 40 CFR 63.7555(b)(1)-(5).
(9VAC5-80-110 and 40 CFR 63.7555(b))

178. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Recordkeeping** – The permittee shall keep the records required in Table 8 to Subpart DDDDD of Part 63 including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies to the permitted facility.
(9VAC5-80-110 and 40 CFR 63.7555(c))

179. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Recordkeeping** – For each boiler subject to an emission limit in Tables 1 or 2 to Subpart DDDDD of Part 63, the permittee must also keep the applicable records specified in 40 CFR 63.7555(d)(1) through (11).
(9VAC5-80-110 and 40 CFR 63.7555(d))

180. **MACT Subpart DDDDD – (PWR006, PWR009 & PWR014) – Recordkeeping** – For each startup period, for units selecting paragraph (2) of the definition of "startup" in 40 CFR 63.7575 the permittee must maintain records of the time that clean fuel combustion begins; the time when you start feeding fuels that are not clean fuels; the time when useful thermal energy is first supplied; and the time when the PM controls are engaged.

a. If you choose to rely on paragraph (2) of the definition of "startup" in 40 CFR 63.7575, for each startup period, you must maintain records of the hourly steam temperature, hourly steam pressure, hourly steam flow, hourly flue gas temperature, and all hourly average CMS data (e.g., CEMS, PM CPMS, COMS, ESP total secondary electric power input, scrubber pressure drop, scrubber liquid flow rate) collected during each startup period to confirm that the control devices are engaged. In addition, if compliance with the PM emission limit is demonstrated using a PM control device, you must maintain records as specified in 40 CFR 63.7555(d)(12)(i) through (iii).

i. If you choose to use paragraph (2) of the definition of "startup" in 40 CFR 63.7575 and you find that you are unable to safely engage and operate your PM control(s) within 1 hour of first firing of non-clean fuels, you may choose to rely on paragraph (1) of definition of "startup" in 40 CFR 63.7575 or you may submit to the delegated permitting authority a request for a variance with the PM controls requirement as described in 40 CFR 63.7555(d)(13)(i)-(iv).

(9VAC5-80-110 and 40 CFR 63.7555(d))

181. **MACT Subpart DDDDD – (PWR006 & PWR009) - Recordkeeping** – If you elect to average emissions consistent with 40 CFR 63.7522, you must additionally keep a copy of the emission averaging implementation plan required in 40 CFR 63.7522(g), all calculations required under 40 CFR 63.7522, including monthly records of heat input or steam generation, as applicable, and monitoring records consistent with 40 CFR 63.7541. (9VAC5-80-110 and 40 CFR 63.7555(e))

182. **MACT Subpart DDDDD – (PWR010 & PWR011) - Recordkeeping** – If you operate a unit in the unit designed to burn gas 1 subcategory that is subject to 40 CFR 63 Subpart DDDDD and you use an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under Part 63, other gas 1 fuel, or gaseous fuel subject to another subpart of Part 60, 61, or 65, you must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.
(9VAC5-80-110 and 40 CFR 63.7555(h))

183. **MACT Subpart DDDDD – (PWR006, PWR009, PWR010, PWR011 & PWR014) – Recordkeeping** – The permittee's records shall be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).

a. As specified in §63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

b. The permittee must keep each record on site, or they must be accessible from on site, for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). The permittee can keep the records off site for the remaining 3 years.

(9VAC 5-80-110 and 40 CFR 63.7560(a), (b) and (c))

NESHAP Subpart E – National Emission Standard for Mercury (PWR014)

Emission Standard

184. **NESHAP Subpart E – (PWR014) – Limitation** – Emissions to the atmosphere from sludge incineration plants that process wastewater treatment plant sludges shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period.
(9VAC5-80-110, 40 CFR 61.52(b) and Condition 35 of the 10/17/18 Permit Document)

Sludge Sampling

185. **NESHAP Subpart E – (PWR014) – Sludge Sampling** - A sludge test shall be conducted for mercury from the pulp and paper residues (i.e., WWTP sludge). Each test shall be conducted and reported in accordance with 40 CFR 61.54 to determine compliance with the mercury emission limit contained in Conditions 102 and 184. The details of the tests are to be arranged with the Blue Ridge Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Blue Ridge Regional Office and shall conform to the test report format enclosed with this permit.
VAC5-80-110, 40 CFR 61.54, Conditions 35 and 48 of the 10/17/18 Permit Document)

Monitoring

186. **NESHAP Subpart E – (PWR014) – Monitoring** - All the sources for which mercury emissions exceed 1.6 kg (3.5 lb) per 24-hour period, demonstrated either by stack sampling according to 40 CFR 61.53 or sludge sampling according to 40 CFR 61.54, shall monitor mercury emissions at intervals of at least once per year by use of Method 105 of Appendix B of Part 61 or the procedures specified in 40 CFR 61.53(d)(2) and (d)(4). The results of the monitoring shall be reported and retained according to 40 CFR 61.53(d)(5) and (d)(6) or 40 CFR 61.54(f) and (g).
(9VAC5-80-110, 40 CFR 61.55(a) and Condition 35 of the 10/17/18 Permit Document)

Recordkeeping

187. **NESHAP Subpart E – (PWR014) – Recordkeeping** - The permittee shall maintain records of sludge sampling, charging rate determination and other data needed to determine mercury content of wastewater treatment plant sludges. These records shall be available for inspection by the DEQ for a minimum of two years.
(9VAC5-80-110, 40 CFR 61.54(g) and Condition 35 of the 10/17/18 Permit Document)

Process Equipment Requirements – Cooling Tower (CT-1) & Wastewater Cooling Tower (WTP003)

Limitations

188. **Process Equipment Requirements – (CT-1) – Limitations** – Particulate emissions from the cooling tower (CT-1) shall be controlled by drift eliminator designed for 0.001% loss. The drift eliminator shall be provided with adequate access for inspection and shall be in operation when the cooling tower is operating.

(9VAC5-80-110 and Condition 11 of the 10/17/18 Permit Document)

189. **Process Equipment Requirements – (WTP003) - Limitations** - Emissions from the water treatment plant cooling tower (WTP003) shall not exceed the limits specified below:

Volatile Organic Compounds	349.6 tons/yr

(9VAC5-80-110 and Condition 40 of the 10/17/18 Permit Document)

Monitoring

190. **Process Equipment Requirements – (WTP003) – Monitoring** - The wastewater cooling tower (WTP003) shall be equipped with devices to continuously measure and record the wastewater cooling tower (WTP003) inlet flow rate, cooling tower inlet water temperature, and cooling tower outlet water temperature. The devices shall be installed, calibrated, maintained, audited, and operated in accordance with DEQ approved procedures which include, at a minimum, the manufacturer's recommended procedures for operation, maintenance, and quality assurance.
(9VAC5-80-110 and Condition 19 of the 10/17/18 Permit Document)

191. **Process Equipment Requirements – (WTP003) – Monitoring** - The permittee shall test the wastewater cooling tower (WTP003) inlet and outlet to determine the methanol content of each liquid stream. Tests shall be performed no less frequently than weekly. Sampling and analysis for methanol content shall be conducted in accordance with DEQ approved methods. The results of the analysis shall include: methanol content, company and individual collecting the sample, identification of sampling method used, sample volume, number of samples, date sample collected, location where sample taken, date of analysis, company and individual conducting the analysis.
(9VAC5-80-110 and Condition 30 of the 10/17/18 Permit Document)

Recordkeeping

192. **Process Equipment Requirements – (WTP003) – Recordkeeping** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

    a. Water monitoring records to demonstrate compliance with Condition189. Emissions calculations shall be based on the temperature difference between the cooling tower inlet and outlet, and the methanol concentrations at the cooling tower inlet and outlet, and the cooling tower inlet flow rate.

    b. Monthly emissions calculations, and all supporting documentation, for VOC using calculation methods approved by the Blue Ridge Regional Office to verify compliance

with the ton/yr emissions limitations in this permit. Annual emissions are calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

(9VAC5-80-110 and Condition 55(e) and (f) of the 10/17/18 Permit Document)

MACT Subpart Q – Industrial Process Cooling Towers (CT-1 & WTP003)

General Compliance Requirements

193. **MACT Subpart Q – (CT-1 & WTP003) - General Compliance Requirements** - The permittee shall comply with the applicable General Provisions as specified in Table 1 to Subpart Q of Part 63.
(9VAC5-80-110 and 40 CFR 63.400(b))

Standard

194. **MACT Subpart Q – (CT-1 & WTP003) - Limitations** - The owner or operator of an Industrial Process Cooling Tower (IPCT) shall not use chromium-based water treatment chemicals in any affected IPCT.
(9VAC5-80-110 and 40 CFR 63.402)

Compliance Demonstrations

195. **MACT Subpart Q – (CT-1 & WTP003) - Compliance Demonstration** – No routine monitoring, sampling or analysis is required. Should the Administrator request a cooling water analysis of an IPCT, the permittee shall meet the requirements specified in 40 CFR 63.404(a).
(9VAC5-80-110 and 40 CFR 63.404 (a))

196. **MACT Subpart Q – (CT-1 & WTP003) - Compliance Demonstration** – On or after 3 months after the compliance date, a cooling water sample residual hexavalent chromium concentration equal to or less than 0.5 parts per million by weight shall indicate compliance with 40 CFR 63.402. Alternatively, an owner or operator may demonstrate compliance through record keeping in accordance with paragraph 40 CFR 63.404(c) as follows:

    a. To demonstrate compliance with 40 CFR 63.402, in lieu of the water sample analysis for in 40 CFR 63.404(a), the owner or operator of each IPCT may maintain records of water treatment chemical purchases, including invoices and other documentation that includes date(s) of purchase or shipment, trade name or other information to identify composition of the product and quantity of the product.

(9VAC5-80-110 and 40 CFR 63.404(b) and (c))

Notification Requirements

197. **MACT Subpart Q – (CT-1 & WTP003) - Notifications** – The permittee shall submit an Initial Notification in accordance with the requirements outlined in 40 CFR 63.405(a)(2).

    a. The notification shall provide all the information required in 40 CFR 63.405(a)(1)(i) through (a)(1)(iv).

    (9VAC5-80-110 and 40 CFR 63.405(a))

198. **MACT Subpart Q – (CT-1 & WTP003) - Notifications** – The permittee shall submit a Notification of Compliance Status in accordance with the requirements outlined in 40 CFR 63.405(b)(1) and (b)(2).
(9VAC5-80-110 and 40 CFR 63.405(b))

Recordkeeping Requirements

199. **MACT Subpart Q – (CT-1 & WTP003) - Recordkeeping** – To demonstrate continuing compliance with 40 CFR 63.402, the permittee shall maintain copies of the initial notification and the notification of compliance status as required by 40 CFR 63.405 for a period of at least 5 years onsite.
(9VAC5-80-110 and 40 CFR 63.406)

Process Equipment Requirements - Fly Ash Silos and Handling Systems (PWR020 & PWR021)

Limitations

200. **Process Equipment Requirements - (PWR020 & PWR021) – Limitations** - Particulate emissions from each silo and associated transfer shall be controlled by fabric filter and complete enclosure. Each fabric filter shall be provided with adequate access for inspection and shall be in operation when material is being transferred to or from the silo.
(9VAC5-80-110 and Condition 2 of the 11/7/14 Permit Document)

201. **Process Equipment Requirements - (PWR020 & PWR021) – Limitations** - Emissions from each silo (PWR020, PWR021) shall not exceed the limits specified below:

PM (filterable)	0.005 gr/dscf	0.47 tons/yr
PM10	0.005 gr/dscf	0.47 tons/yr
PM2.5	0.005 gr/dscf	0.47 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 202, 203 and 204.
(9VAC5-80-110 and Condition 5 of the 11/7/14 Permit Document)

202. **Process Equipment Requirements - (PWR020 & PWR021) – Limitations** - Visible emissions from each fabric filter exhaust shall not exceed five (5) percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110 and Condition 6 of the 11/7/14 Permit Document)

Monitoring

203. **Process Equipment Requirements - (PWR020 & PWR021) – Monitoring** - Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filter is operating.
(9VAC5-80-110 and Condition 3 of the 11/7/14 Permit Document)

204. **Process Equipment Requirements - (PWR020 & PWR021) – Monitoring** – To ensure good performance, the monitoring device used to continuously measure differential pressure drop across the fabric filter shall be observed by the permittee with a frequency of not less than once per shift. The permittee shall keep a log of the observations, from the monitoring device.
(9VAC5-80-110 and Condition 4 of the 11/7/14 Permit Document)

205. **Process Equipment Requirements - (PWR020 & PWR021) – Monitoring** – At least one time per calendar week an observation of the presence of visible emissions from each fly ash silo and handling system fabric filter exhaust shall be made. The presence of visible emissions shall require the permittee to:

    a. take timely corrective action such that the fabric filter resumes operation with no visible emissions, or,

    b. conduct a visible emission evaluation (VEE) on the fabric filter exhaust in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the fabric filter exhaust are 5 percent opacity or less. If any of the observations exceed the opacity limitation of 5 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the fabric filter resumes operation within the 5 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log for each fabric filter exhaust to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If neither of the fly ash silos and handling systems has been operated for any period during the entire week, it shall be noted in the log book. (9VAC5-80-110 E and K)

Recordkeeping

206. **Process Equipment Requirements - (PWR020 & PWR021) – Recordkeeping** – The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

a. Operation and control device monitoring records as required in Conditions 203 and 204.

b. Scheduled and unscheduled maintenance and operator training.

c. Observation logs required by Condition 205.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9VAC5-80-110 and Condition 8 of the 11/7/14 Permit Document)

Process Equipment Requirements – Dry Sorbent Storage and Handling System (RFC001 & RFC002)

Limitations

207. **Process Equipment Requirements - (RFC001 & RFC002) – Limitations** - Particulate emissions from the dry sorbent storage and handling system shall be controlled by fabric filter. Each fabric filter shall be provided with adequate access for inspection and shall be in operation when material is being transferred to the silo.
(9VAC5-80-110 and Condition 2 of the 6/22/12 Permit Document)

208. **Process Equipment Requirements – (RFC001 & RFC002) – Limitations** - The throughput of dry sorbent shall not exceed 5,500 tons per year, calculated monthly as the

sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 5 of the 6/22/12 Permit Document)

209. **Process Equipment Requirements - (RFC001 & RFC002) – Limitations** – Emissions from the dry sorbent storage and handling fabric filters shall not exceed the limits specified below:

Particulate Matter (PM)	0.005 gr/dscf (each)	0.64 tons/yr (total)
PM-10	0.005 gr/dscf (each)	0.64 tons/yr (total)

(9VAC5-80-110 and Condition 6 of the 6/22/12 Permit Document)

210. **Process Equipment Requirements - (RFC001 & RFC002) – Limitations** – Visible emissions from each fabric filter exhaust shall not exceed five (5) percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.
(9VAC5-80-110 and Condition 7 of the 6/22/12 Permit Document)

Monitoring

211. **Process Equipment Requirements - (RFC001 & RFC002) – Monitoring** - Each fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filter is operating.
(9VAC5-80-110 and Condition 3 of the 6/22/12 Permit Document)

212. **Process Equipment Requirements - (RFC001 & RFC002) – Monitoring** - To ensure good performance, the monitoring device used to continuously measure differential pressure drop across the fabric filter shall be observed by the permittee with a frequency of not less than once per shift. The permittee shall keep a log of the observations, from the monitoring device.
(9VAC5-80-110 and Condition 4 of the 6/22/12 Permit Document)

213. **Process Equipment Requirements - (RFC001 & RFC002) – Monitoring** - At least one time per calendar week an observation of the presence of visible emissions from the dry sorbent storage and handling system fabric filter exhaust shall be made. The presence of visible emissions shall require the permittee to:

a. take timely corrective action such that the fabric filter resumes operation with no visible emissions, or,

b. conduct a visible emission evaluation (VEE) on the fabric filter exhaust in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the fabric filter exhaust are 5 percent opacity or less. If any of the observations exceed the opacity limitation of 5 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the fabric filter resumes operation within the 5 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the dry sorbent storage and handling system have not been operated for any period during the entire week, it shall be noted in the log book.
(9VAC5-80-110 E and K)

Recordkeeping

214. **Process Equipment Requirements - (RFC001 & RFC002) - Recordkeeping** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

a. Annual throughput of dry and wet sorbent, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Operation and control device monitoring records for the fabric filters as required in Condition 212.

c. Scheduled and unscheduled maintenance and operator training.

d. Observation logs required by Condition 213.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9VAC5-80-110 and Condition 8 of the 6/22/12 Permit Document)

Process Equipment Requirements - Unbleached Pulp Mill

Limitations

215. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The No. 8 Slaker shall no longer be operated. Reactivation of No. 8 Slaker may require a permit.
(9VAC5-80-110 and Condition 5 of the 2/25/08 Permit Document)

216. **Process Equipment Requirements – (Unbleached Pulp Mill) – Limitations** - The Lime Calciner shall no longer be operated. Reactivation of the Lime Calciner may require a permit.
(9VAC5-80-110 and Condition 7 of the 2/25/08 Permit Document)

217. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Volatile organic compound emissions from the NCG system (including but not limited to the Batch Digesters, Blow Tank, and Accumulator System (UPM003 and UPM003a), Turpentine System (UPM004), A Line Brownstock Washer System (UPM010), A Line High Density Storage (UPM011), A Line Delignification Blow Tank (UPM012), A Line Post Oxygen Wash System (UPM013), C Line Brownstock Washer System (UPM020), C Line High Density Storage (UPM021), D Line Brownstock Washer System (UPM030), D Line High Density Storage (UPM031), D Line Delignification Blow Tank (UPM032), D Line Post Oxygen Wash System (UPM033), Recovery Accumulator (REC060), Waste Heat Evaporator System (REC061), No 1, 2, 3 Multiple Effect Evaporators (REC062), No. 4 Multiple Effect Evaporator (REC063), No. 1 Condensate Stripper (REC064), LVHC Closed Vent System (REC070), Condensate Collection System (REC071), HVLC Closed Vent System (REC072)) shall be controlled by the non-condensible-gas (NCG) control system. The NCG control system shall combust waste gases in a lime kiln or incinerator (oxidizer). The NCG control system shall be provided with adequate access for inspection and shall be in operation when any portion of the NCG system is operating.
(9VAC5-80-110 and Condition 4 of the 10/17/18 Permit Document)

218. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Total reduced sulfur and volatile organic compound emissions from the A-Line Oxygen Delignification Reactor and Blow Tank (UPM012), the D-Line Oxygen Delignification Reactor and Blow Tank (UPM032) the D-Line Brown Stock Washer System (UPM030), the Kraft Pulp Digester System (includes Digesters 1-18, (UPM003) 19 & 20 (UPM003a), Blow Tank System and Accumulator System (UPM003), the Waste Heat Evaporator System (REC061), the No. 1, 2, & 3 Multiple Effect Evaporators (REC062), the modified No. 4 Multiple Effect Evaporator System (RE063), Turpentine System (UPM004) and the Condensate Stripper System (REC064) shall be controlled by the non-condensible-gas (NCG) odor control system.

The NCG odor control system shall combust waste gasses in a lime kiln or waste gas incinerator, in accordance with 40 CFR 60.283. Waste gasses combusted in a waste gas incinerator shall be subjected to a minimum temperature of 1400 °F for at least 0.5 second or a temperature lower than 1400 °F, which was demonstrated during the most recent measurement of incinerator efficiency, by testing acceptable to the Agency, to provide a minimum control efficiency of 98.0% at design VOC input conditions, but in no case less than 1200 °F for at least 0.5 second*. The waste gas incinerator shall be provided with adequate access for inspection.

*If the permittee elects to demonstrate compliance at a temperature less than 1400 °F, testing to demonstrate compliance with 98.0% destruction efficiency shall be done at least once in any three year period.
(9VAC5-80-110, 40 CFR 60.283(a), 40 CFR 60.283a(a), Conditions 5, 6, 7, 10, & 11 of the 11/20/07 Permit Document and Conditions 11 and 83 of the 2/25/08 Permit Document)

219. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Volatile Organic Compound (VOC) emissions from foul condensate and portions of other process waste water streams, as necessary to meet the requirements of Condition 218 shall be controlled by combustion as stripper off gasses (SOGs) from the Condensate Stripper System or by biological degradation in the WTP.
(9VAC5-80-110, Condition 8 of the 11/20/07 Permit Document and Condition 12 of the 2/25/08 Permit Document)

220. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The condensate stripper (REC064) shall process no less than 280.2 million gallons (MMgal) per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 26 of the 10/17/18 Permit Document)

221. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Emissions from pulp mill condensates, including foul condensates and pulp mill process water shall not exceed the limits specified below:

Volatile Organic Compounds	2862.0 tons/yr

This emission limit shall include emissions from all uses, reuses, recycling, storage, handling, incineration, and WTP treatment of these condensates/process waters.

The amount of VOC (methanol) that shall be removed and destroyed (not emitted) by steam stripping and biological treatment in order to meet this limit shall be at least*:

0-2000 ADTP/D yrly avg: 14.92 lbs/ADTP

2000-2600 ADTP/D yrly avg: lbs/ADTP = 22.76 - 7.84
(x/2000)
where x = ADTP/D yrly avg.

*The least amount to be destroyed shall be adjusted as necessary if the amount of VOC (methanol) formed changes from the basis that this mill forms a net 22.76 lbs VOC (methanol)/ADTP after subtracting the following having a separate accounting from a gross 24.83 lbs VOC (methanol)/ADTP formed due to digesting and bleaching:

0.34 lb/ADTP - non-condensible gases combusted in odor control system
1.40 lb/ADTP - in black liquor sent to recovery furnaces and BLOX tower
0.33 lb/ADTP - to land and water via WTP.

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitations have not been exceeded.
(9VAC5-80-110 and Condition 55 of the 2/25/08 Permit Document)

222. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Emissions from the following modified systems are included in the VOC (methanol) emissions limit in the previous condition: Oxygen Delignification Blow Tanks, Bleaching Lines, Green Liquor Clarifier, Dregs Washer, Dregs Filter, Pulp Screening and Knotting Equipment, Causticizer, White Liquor Clarifier, Lime Mud Washer and Lime Mud Filter.
(9VAC5-80-110 and Condition 56 of the 2/25/08 Permit Document)

223. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** – The production of pulp from the kraft pulp digester system, digesters 1-20 (UPM003 and UPM003a) shall not exceed 949,000 ADTP per year, calculated monthly as the sum of the previous consecutive 12 months' production.
(9VAC5-80-110)

224. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The Waste Heat Evaporator System (REC061) shall process no more than 949,000 ADTP per year, calculated monthly as the sum of the previous consecutive 12 months' throughput.
(9VAC5-80-110)

225. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The A-Line Oxygen Delignification System and D-Line Oxygen Delignification System (UPM013 & UPM033) shall each process no more than 438,000 ODTP per year, calculated monthly as the sum of the previous consecutive 12 months' throughput.
(9VAC5-80-110 and Condition 34 of the 2/25/08 Permit Document)

226. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations - Emission Limits** - Emissions from the operation of the A-Line Post Oxygen Delignification System or D-Line Post Oxygen Delignification System (UPM013, 023, 033) shall not exceed the limits specified below:

Volatile Organic Compounds	43.2 lbs/hr	157.7 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitations have not been exceeded. Compliance with this emission limit shall also be determined as stated in Condition 260.
(9VAC5-80-110 and Condition 54 of the 2/25/08 Permit Document)

227. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The recovery portion of the unbleached pulp mill shall process no more than 445,300 tons per year, calculated monthly as the sum of the previous consecutive 12 months' throughput of lime (as CaO). This production unit includes the Green Liquor Clarifier System (REC032), the White Liquor Clarifier System (REC036), the Lime Mud Washing System (REC041), the Lime Mud Filter System (REC043), the Dregs Washing System (REC050), and the Dregs Filter System (REC051).
(9VAC5-80-110 and Conditions 35 of the 2/25/08 Permit Document)

228. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The Causticizer system (REC034, REC035 & REC039) shall process no more than 445,300 tons per year, calculated monthly as the sum of the previous consecutive 12 months' throughput of lime (as CaO).
(9VAC5-80-110 and Condition 35 of the 2/25/08 Permit Document)

229. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Particulate matter and PM-10 emissions from the No. 16 Lime Slaker (REC034) shall be controlled by a cold water spray condenser and process enclosure. The control device shall be provided with adequate access for inspection and shall be in operation when the slaker is operating.
(9VAC5-80-110 and Condition 12 of the 11/20/07 Permit Document)

230. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Particulate emissions from the No. 20 Slaker (REC035) shall be controlled by a scrubber.
(9VAC5-80-110)

231. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Emissions from the operation of the No. 20 Slaker (REC035) shall not exceed the limits specified below:

Particulate Matter	6.0 lbs/hr	26.3 tons/yr

(9VAC5-80-110 and Condition 29 of the 11/20/07 Permit Document)

232. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Particulate emissions from the No. 24 Slaker (REC039) shall be controlled by a condenser and vented process enclosure.
(9VAC5-80-110 and Condition 20 of the 2/25/08 Permit Document)

233. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The No. 24 Slaker (REC039) shall process no more than 445,300 tons per year, calculated monthly as the sum of the previous consecutive 12 months' throughput of lime (as CaO).
(9VAC5-80-110 and Condition 35 of the 2/25/08 Permit Document)

234. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Emissions from the operation of the No. 24 Slaker (REC039) shall not exceed the limits specified below:

Particulate Matter	2.4 lbs/hr	8.8 tons/yr
PM-10	2.4 lbs/hr	8.8 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitations have not been exceeded. Compliance with these emission limits shall also be determined as stated in Condition 261.
(9VAC5-80-110 and Condition 60 of the 2/25/08 Permit Document)

235. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Visible emissions from the No. 20 Lime Slaker (REC035) shall not exceed twenty percent (20%) opacity except during one six-minute period in any one hour in which visible emissions shall not exceed thirty percent (30%) opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9VAC5-80-110 and 9VAC5-50-80)

236. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Particulate emissions from the Nos. 1, 2, 3, 4, and 5 Lime Bins (REC048 & REC049) shall be controlled by fabric filtration. The fabric filters shall be provided with adequate access for inspection.
(9VAC5-80-110 and Condition 19 of the 2/25/08 Permit Document)

237. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The No. 1, 2, and 3 Lime Bins combined (REC048) shall process no more than 2,715,600 tons per

year, calculated monthly as the sum of the previous consecutive 12 months' throughput of lime (as CaO).
(9VAC5-80-110 and Condition 31 of the 2/25/08 Permit Document)

238. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Emissions from the operation of the No. 1, No. 2, and No. 3 Lime Bins combined (REC048) shall not exceed the limits specified below:

Particulate Matter	1.0 lbs/hr	4.4 tons/yr
PM-10	1.0 lbs/hr	4.4 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitations have not been exceeded. Compliance with these emission limits shall also be determined as stated in Condition 261.
(9VAC5-80-110 and Condition 68 of the 2/25/08 Permit Document)

239. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The No. 4 and No. 5 Lime Bins combined (REC049) shall process no more than 3,679,200 tons per year, calculated monthly as the sum of the previous consecutive 12 months' throughput of lime (as CaO).
(9VAC5-80-110 and Condition 32 of the 2/25/08 Permit Document)

240. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Emissions from the operation of the No. 4 and No. 5 Lime Bins combined (REC049) shall not exceed the limits specified below:

Particulate Matter	1.4 lbs/hr	5.0 tons/yr
PM-10	1.2 lbs/hr	4.5 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitations have not been exceeded. Compliance with these emission limits shall also be determined as stated in Condition 261.
(9VAC5-80-110 and Condition 69 of the 2/25/08 Permit Document)

241. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Visible emissions from the lime bin fabric filters shall not exceed five percent (5%) opacity except during one six-minute period in any one hour in which visible emissions shall not exceed

ten percent (10%) opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A). This condition applies at all times except during periods of startup, shutdown, and malfunction.
(9VAC5-80-110 and Condition 76 of the 2/25/08 Permit Document)

242. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - The approved fuel for the No. 1 Incinerator (REC065) is natural gas. A change in the fuel may require a permit to modify and operate.
(9VAC5-80-110 and Condition 50 of the 2/25/08 Permit Document)

243. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Sulfur dioxide emissions from the No. 1 Incinerator (REC065) shall be controlled by an alkaline scrubber. The scrubber shall be provided with adequate access for inspection.
(9VAC5-80-110)

244. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Emissions from the operation of the No. 1 Incinerator (REC065) shall not exceed the limits specified below:

Particulate Matter	18.0 lbs/hr	65.7 tons/yr
PM-10	13.1 lbs/hr	
Sulfur Dioxide	21.6 lbs/hr	78.8 tons/yr
Nitrogen Oxides (as NO2)	48.0 lbs/hr	175.2 tons/yr
Carbon Monoxide	4.0 lbs/hr	14.5 tons/yr
Volatile Organic Compounds	1.85 lbs/hr	

(9VAC5-80-110, Condition 74 of the 2/25/08 Permit Document and Condition 38 of the 10/17/18 Permit Document)

245. **Process Equipment Requirements – (Unbleached Pulp Mill) - Limitations** - Visible emissions from the No. 1 Incinerator (REC065) shall not exceed ten percent (10%) opacity except during one six-minute period in any one hour in which visible emissions shall not exceed twenty percent (20%) opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9VAC5-80-110 and Condition 80 of the 2/25/08 Permit Document)

Monitoring

246. **Process Equipment Requirements – (Unbleached Pulp Mill) - Monitoring** - The Nos. 1, 2, 3, 4, and 5 Lime Bins (REC048 & REC049) fabric filters that exceed 2500 cfm shall each be equipped with a device to continuously measure the differential pressure drop across the fabric filters. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filter is operating except for periods of maintenance or malfunction.
(9VAC5-80-110 and Condition 19 of 2/25/08 Permit Document)

247. **Process Equipment Requirements – (Unbleached Pulp Mill) - Monitoring** – The No. 20 Slaker (REC035) scrubber shall be equipped with a monitoring device to measure the scrubber fan amperage and the scrubber liquid flow rate or supply pressure, and keep weekly records. The monitoring device shall be properly calibrated and maintained, and shall be in operation at all times the slaker is in operation except for periods of maintenance or malfunction.
(9VAC5-80-110)

248. **Process Equipment Requirements – (Unbleached Pulp Mill) - Monitoring** - The No. 1 Incinerator (REC065) shall be equipped with a device to continuously measure and record the combustion temperature of the unit.

    a. The monitoring device is to be certified in accordance with the requirements specified in 40 CFR 60.284(b)(1).

    (9VAC5-80-110, 40 CFR 60.284(b), Conditions 11 and 83 of the 2/25/08 Permit Document and Condition 17 of the 10/17/18 Permit Document)

249. **Process Equipment Requirements – (Unbleached Pulp Mill)- Monitoring** - The monitoring device required in Condition 248 shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the respective control device or emission unit is operating. Part of the approved operating procedure for each monitor shall define action levels and the responses taken when action levels are exceeded.
(9VAC5-80-110, Condition 11 of the 2/25/08 Permit Document and Condition 18 of the 10/17/18 Permit Document)

250. **Process Equipment Requirements – (Unbleached Pulp Mill) - Monitoring** - The condensate stripper (REC064) shall be equipped with devices to continuously measure and record the liquid processing flow rates. The devices shall be installed, calibrated, maintained, audited, and operated in accordance with DEQ approved procedures which include, at a minimum, the manufacturer's recommended procedures for operation, maintenance, and quality assurance.
(9VAC5-80-110 and Condition 20 of the 10/17/18 Permit Document)

251. **Process Equipment Requirements – (Unbleached Pulp Mill) - Monitoring** - The No. 1 Incinerator (REC065) scrubber shall be equipped with monitoring devices which measure the pH of the scrubbing liquid and either the scrubber liquid flow rate or supply pressure, and keep weekly records.
(9VAC5-80-110)

252. **Process Equipment Requirements – (Unbleached Pulp Mill) - Monitoring** – At least one time per calendar week an observation of the presence of visible emissions from the No. 1 Incinerator (REC065) stack shall be made. The presence of visible emissions shall require the permittee to:

a. take timely corrective action such that the waste gas incinerator (REC065) resumes operation with no visible emissions, or,

b. conduct a visible emission evaluation (VEE) on the incinerator stack in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the incinerator stack are 10 percent opacity or less. If any of the observations exceed the opacity limitation of 10 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the waste gas incinerator resumes operation within the 10 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the waste gas incinerator (REC065) has not been operated for any period during the entire week, it shall be noted in the log book.
(9VAC5-80-110 E and K)

253. **Process Equipment Requirements – (Unbleached Pulp Mill) - Monitoring** – At least one time per calendar week an observation of the presence of visible emissions from the No. 20 Slaker (REC035) exhaust shall be made. The presence of visible emissions shall require the permittee to:

a. take timely corrective action such that the No. 20 Slaker (REC035) resumes operation with no visible emissions, or,

b. conduct a visible emission evaluation (VEE) on the No. 20 Slaker (REC035) exhaust in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum

of six (6) minutes, to assure visible emissions from the slaker exhaust are 20 percent opacity or less. If any of the observations exceed the opacity limitation of 20 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the No. 20 Slaker (REC035) resumes operation within the 20 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the No. 20 Slaker has not been operated for any period during the entire week, it shall be noted in the log book.
(9VAC5-80-110 E and K)

254. **Process Equipment Requirements – (Unbleached Pulp Mill) - Monitoring** – At least one time per calendar week an observation of the presence of visible emissions from each of the Nos. 1, 2, 3, 4 and 5 Lime Bins (REC048 & REC049) fabric filter exhausts shall be made. The presence of visible emissions shall require the permittee to:

a. take timely corrective action such that the fabric filter resumes operation with no visible emissions, or,

b. conduct a visible emission evaluation (VEE) on the fabric filter exhaust in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the fabric filter exhaust are 5 percent opacity or less. If any of the observations exceed the opacity limitation of 5 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the fabric filter resumes operation within the 5 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log for each of the Nos. 1, 2, 3, 4 and 5 Lime Bins (REC048 & REC049) to demonstrate compliance. Each log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary correction action and the name of the observer. The visible emission

observations, VEE results, and corrective actions shall be recorded. If the lime bins have not been operated for any period during the entire week, it shall be noted in the log book. (9VAC5-80-110 E & K)

255. **Process Equipment Requirements – (Unbleached Pulp Mill) - Monitoring** - The permittee shall conduct a monthly observation of the No. 16 Slaker (REC034) and the No. 24 Slaker (REC039) to verify proper enclosure of the slakers (vented enclosure for No. 24 Slaker). A record of the observations and any actions taken to correct any openings discovered in an enclosure will be maintained.
(9VAC5-80-110)

Compliance Assurance Monitoring

256. **Process Equipment Requirements – (Unbleached Pulp Mill) – Compliance Assurance Monitoring (CAM)** -The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the scrubber/absorber controlling sulfur dioxide from the No. 1 Incinerator. For the purposes of this permit, sulfur dioxide from the No. 1 Incinerator is referred to as "PSEU5:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-5) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ.
(9VAC5-80-110 and 40 CFR 64.6(c))

257. **Process Equipment Requirements – (Unbleached Pulp Mill) – Compliance Assurance Monitoring (CAM)** -The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the No. 1 Incinerator controlling TRS from the Recovery Accumulator, Condensate Stripper, HVLC, LVHC and Condensate Collection Systems. For the purposes of this permit, TRS from the Recovery Accumulator, Condensate Stripper, HVLC, LVHC and Condensate Collection Systems is referred to as "PSEU6:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-6) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451 , including, but not limited to, changes initiated by DEQ.
(9VAC5-80-110 and 40 CFR 64.6(c))

Recordkeeping

258. **Process Equipment Requirements – (Unbleached Pulp Mill) - Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall, if

requested, be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

a. Annual throughput of the Waste Heat Evaporator System (REC061), calculated as ADTP. Annual throughput shall be calculated monthly as the sum of the previous consecutive 12 month period.

b. Annual throughput in each of the oxygen delignification systems, A-Line and D-Line. Annual throughput shall be calculated monthly as the sum of the previous consecutive 12 month period.

c. Annual throughput of lime slurry in the recovery portion of the unbleached paper mill, calculated as tons of CaO. Annual throughput shall be calculated monthly as the sum of the previous consecutive 12 month period.

d. Annual throughput of lime slurry in the Causticizers (REC034, REC035 & REC039), calculated as tons of CaO. Annual throughput shall be calculated monthly as the sum of the previous consecutive 12 month period.

e. Annual throughput of lime slurry in the No. 24 Slaker (REC039), calculated as tons of CaO. Annual throughput shall be calculated monthly as the sum of the previous consecutive 12 month period.

f. Records of the scrubber fan amperage and the scrubber liquid flow rate or supply pressure for the scrubber controlling the No. 20 Lime Slaker (REC035).

g. Monthly throughputs and VOC (methanol) content of foul condensates and other waste streams as necessary to meet the requirements of Conditions 221 and 222.

h. Records of the differential pressure readings across the fabric filters controlling the lime storage bins, unless air flow through the filters are less than 2,500 cfm (REC048 & REC049).

i. Records of the waste gas incinerator (REC065) temperature.

j. Records of the waste gas incinerator (REC065) scrubber pH and flow rate or supply pressure.

k. Records of the process wastewater feed rate, the steam feed rate, and the process wastewater column feed temperature of the condensate stripper (REC064).

l. Estimated annual VOC emissions from each of the oxygen delignification systems, A-Line and D-Line, using emission factors acceptable to VDEQ. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12 month period. (This

condition is satisfied by documentation that these emissions are combusted with the MACT S LVHC gasses or the NSPS BB controlled gasses.)

m. Estimated annual particulate and PM-10 emissions from each of the lime slakers, No. 16, No. 20, and No. 24 (REC034, REC035 & REC039), using emission factors acceptable to VDEQ. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

n. Estimated annual particulate and PM-10 emissions from the No. 1, No. 2, and No.3 Lime Bins (REC048) and from the No. 4 and No. 5 Lime Bins (REC049), using emission factors acceptable to VDEQ. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

o. Estimated annual emissions of volatile organic compounds to determine compliance with Conditions 221 and 222 using emission factors acceptable to VDEQ. Details of particular emission points not otherwise specified may be requested by VDEQ to clarify the estimation process. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

p. Observation logs required by Conditions 252, 253 and 254; and the monthly slaker enclosure observations required by Condition 255.

q. Records of the inspections of the gas collection system and the condensate collection system.

r. Records as necessary to document compliance with the production based emission limits formula in the limitations part of this section.

s. Results of all stack tests, visible emission evaluations and performance evaluations.

t. Continuous monitoring system data, including daily calibrations and quality assurance checks, if required.

u. Records of scheduled and unscheduled maintenance and operator training for pollution control equipment, including the gas and condensate collection systems.

v. Operation and control device monitoring records necessary to demonstrate compliance with the requirements in Condition 248.

w. Water monitoring records showing stripper processing flow rate to demonstrate compliance with Condition 220. Annual flow rate is calculated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9VAC5-80-110, Condition 40 of the 11/20/07 Permit Document, Condition 106 of the 2/25/08 Permit Document and Condition 55(g) and (h) of the 10/17/18 Permit Document)

Testing

259. **Process Equipment Requirements – (Unbleached Pulp Mill) - Testing** - Initial performance tests shall be conducted concurrently for PM10 and volatile organic compounds from the non-condensable gas system incinerator (REC065). These tests shall be conducted to determine compliance with the emission limits contained in Condition 244. The tests shall be performed, reported, and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after the facility resumes regular operation after the project. Tests shall be conducted and reported and data reduced as set forth in 9VAC5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410. The details of the tests are to be arranged with the Blue Ridge Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the Blue Ridge Regional Office and shall conform to the test report format enclosed with this permit.
(9VAC5-80-110 and Condition 45 of the 10/17/18 Permit Document)

260. **Process Equipment Requirements – (Unbleached Pulp Mill) - Testing** – Upon request and proper notification by the DEQ, the permittee shall conduct additional performance tests for volatile organic compounds from the A-Line and D-Line Post Oxygen Delignification Systems and/or pulp mill condensate system to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 94 of the 2/25/08 Permit)

261. **Process Equipment Requirements – (Unbleached Pulp Mill) - Testing** - Upon request and proper notification by the VDEQ, the permittee shall conduct additional performance tests for particulate matter and PM-10 from the No. 24 Slaker (REC039), No. 1, No. 2, and No. 3 Lime Bins (REC048), and/or the No. 4 and No. 5 Lime Bins (REC049), to demonstrate compliance with the emission limits contained in the contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 95 of the 2/25/08 Permit Document)

262. **Process Equipment Requirements – (Unbleached Pulp Mill) - Testing** – Upon request and proper notification by the DEQ, the permittee shall conduct additional tests for particulate matter, PM-10, sulfur dioxide, nitrogen oxides, carbon monoxide and/or volatile organic compounds from the Waste Gas Incinerator (REC065) to demonstrate compliance with the emission limits contained in this permit. The details of the test shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 99 of the 2/25/08 Permit Document)

263. **Process Equipment Requirements – (Unbleached Pulp Mill) - Testing** - Upon request and proper notification by the DEQ, the permittee shall conduct additional visible emission evaluations from the No. 1, No. 2, No. 3, Lime Bins (REC048), the No. 4 and No. 5 Lime Bins (REC049) and the No. 1 Waste Gas Incinerator (REC065) to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and 102 of the 2/25/08 Permit Document)

MACT Subpart S – Pulp & Paper Industry (Unbleached Pulp Mill)

General Compliance Requirements

264. **MACT Subpart S – Unbleached Pulp Mill – General Compliance Requirements** – The permittee shall comply with the applicable General Provisions as specified in Table 1 to Subpart S of Part 63.
(9VAC5-80-110, 40 CFR 63.440 and Condition 84 of the 2/25/08 Permit Document)

Standards for the Pulping System (Kraft Process)

265. **MACT Subpart S – Unbleached Pulp Mill – Standards for the Pulping** System - The owner or operator of each pulping system using the kraft process subject to the requirements of 40 CFR Subpart S shall control the total HAP emissions from the applicable equipment systems outlined in 40 CFR 63.443(a)(1), as specified in 40 CFR 63.443(c) and (d).
(9VAC5-80-110, 40 CFR 63.443(a) and Condition 84 of the 2/25/08 Permit Document)

266. **MACT Subpart S – Unbleached Pulp Mill – Standards for the Pulping System** -The equipment systems listed in 40 CFR 63.443(a)(1) which includes, the LVHC System and the HVLC System, shall be enclosed and vented into a closed-vent system and routed to a control device that meets the requirements specified in 40 CFR 63.443(d). The enclosures and closed-vent system shall meet the requirements specified in 40 CFR 63.450. The control device used to reduce total HAP emissions from each equipment system listed in 40 CFR 63.443(a)(1) shall:

    a. Reduce total HAP emissions by ninety-eight percent (98%) or more by weight; or

    b. Reduce total HAP emissions using a thermal oxidizer designed and operated at a minimum temperature of (871 °C) (1600 °F) and a minimum residence time of 0.75 seconds; or

    c. Reduce total HAP emissions using:

        i. A lime kiln by introducing the HAP emission stream with the primary fuel or into the flame zone.

The "LVHC (Low Volume High Concentration) System" is defined in 40 CFR 63.441 as collection of equipment including the digester, turpentine, recovery, evaporator, steam stripper systems and any other equipment serving the same function as those previously listed.

The "HVLC (High Volume Low Concentration) System" is defined in 40 CFR 63.441 as the collection of equipment including the pulp washing, knotter, screen, decker, and oxygen delignification systems, weak liquor storage tanks, and any other equipment serving the same function as those previously listed.*

*Each knotter or screen system with total HAP mass emission rates greater than or equal to the rates specified in paragraphs 40 CFR 63.443 (a)(1)(ii)(A) or (a)(1)(ii)(B) or the combined rate specified in 40 CFR 63.443(a)(1)(ii)(C) shall be controlled as outlined above. (Total HAP emissions from each weak liquor storage tank are required to be controlled for new affected sources.[2] The affected equipment systems at the facility are considered existing affected sources for this standard.)

Periods of excess emissions reported under 40 CFR 63.455 shall not be a violation of 40 CFR 63.443(c) and (d) provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed the levels specified in 40 CFR 63.443(e)(1) through (e)(3).

Excess emissions are identified as periods when the incinerator combustion temperature, for more than 60 consecutive minutes, is below the temperature established during the initial or most recent performance test that demonstrates compliance.
(9VAC5-80-110, 40 CFR 63.441, 40 CFR 63.443(c), (d) and (e), 40 CFR 63.450, Conditions 5, 6, & 7 of the 11/20/07 Permit Document and Condition 84 of the 2/25/08 Permit Document)

Standards for Kraft Pulping Process Condensates

267. **MACT Subpart S – Unbleached Pulp Mill - Standards for Pulping Process Condensates** - The pulping process condensates from the equipment systems listed in 40 CFR 63.446(b)(1) through (b)(5) shall be treated to meet the requirements specified in 40 CFR 63.446(c), (d) and (e).
(9VAC5-80-110, 40 CFR 63.446(a) and (b) and Condition 84 of the 2/25/08 Permit Document)

268. **MACT Subpart S – Unbleached Pulp Mill - Standards for Pulping Process Condensates** – As outlined in 40 CFR 63.446(c)(3), the pulping process condensates from the equipment listed in 40 CFR 63.446(b)(1) through (b)(5) that in total contain a total HAP mass of 5.5 kilograms or more of total HAP per megagram (11.1 pounds per ton) of ODP

[2] Paraphrased from 40 CFR 63.443(a)(2)(iv)

for mills that perform bleaching shall be subject to the requirements of 40 CFR 63.446(d) and (e).

The kraft pulping process condensates as defined in this condition shall meet the following standards as outlined in 40 CFR 63.446:

a. The pulping process condensates from the equipment systems listed in 40 CFR 63.446(b) shall be conveyed in a closed collection system that is designed and operated to meet the requirements specified in 40 CFR 63.446(d)(1) and (2).

b. Each pulping process condensate from the equipment listed in 40 CFR 446(b) shall be treated according to the following option:

    i. At mills that perform bleaching, treat the pulping process condensates to remove 5.1 kilograms or more of total HAP per megagram (10.2 pounds per ton) of ODP, or achieve a total HAP concentration of 330 parts per million or less by weight a the outlet of the control device.

    ii. Excess emissions are identified as periods when the condensate feed flow or steam rate (shall monitor both) to the condensate stripper, on a 15-day rolling average basis, is below the flow established during the initial or most recent performance test that demonstrates compliance.

c. Each HAP removed from a pulping process condensate stream during treatment and handling under 40 CFR 63.446(d) and (e), except for those treated according to 40 CFR 63.446(e)(2) shall be controlled as specified in 40 CFR 63.443(c) and (d).

d. For each control device (e.g. steam stripper system or other requirement serving the same function) used to treat pulping process condensates to comply with the requirements specified in 40 CFR 63.446(e)(3) through (5), periods of excess emissions reported under 40 CFR 63.455 shall not be a violation of 40 CFR 63.446(d), (e)(3) through (5), and (f) provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed 10 percent. The 10 percent excess emissions allowance does not apply to treatment of pulping process condensates according to 40 CFR 63.446(e)(2) (e.g. the biological wastewater treatment system used to treat multiple (primarily non-condensate) wastewater streams to comply with the Clean Water Act).

"Pulping process condensates" is defined in 40 CFR 63.441 as the HAP-containing liquid that results from contact of water with organic compounds in the pulping process. Examples of process condensates include digester system condensates, turpentine recovery system condensates, evaporator system condensates, LVHC system condensates, HVLC system condensates and any other condensates from equipment serving the same function as those previously listed. Liquid streams that are intended for byproduct recovery are not considered process condensate streams.

(9VAC5-80-110, 40 CFR 63.441, 40 CFR 63.446(c), (d), (e), (f) and (g) and Condition 84 of the 2/25/08 Permit Document)

Standards for Enclosures and Closed-vent Systems

269. **MACT Subpart S – Unbleached Pulp Mill – Standards for Enclosures and Closed-vent Systems** - Each enclosure and closed-vent system specified in 40 CFR 63.443(c) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in 40 CFR 63.450(b)-(d).
(9VAC5-80-110, 40 CFR 63.450(a) and Condition 84 of the 2/25/08 Permit Document)

Monitoring Requirements

270. **MACT Subpart S - Unbleached Pulp Mill – Monitoring Requirements** – Each owner or operator subject to the standards specified in 40 CFR 63.443(c) and (d), 40 CFR 63.446(c), (d) and (e) or 40 CFR 63.450(d), shall install, calibrate, certify, operate and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS, as defined in 40 CFR 63.2) as specified in 40 CFR 63.453(b) through (m), except as allowed in 40 CFR 63.453(m). The CMS shall include a continuous recorder.
(9VAC5-80-110, 40 CFR 63.453(a) and Condition 84 of the 2/25/08 Permit Document)

271. **MACT Subpart S - Unbleached Pulp Mill – Monitoring Requirements** – A CMS shall be operated to measure the temperature in the firebox or in the ductwork immediately downstream of the firebox and before any substantial heat exchange occurs for each thermal oxidizer used to comply with the requirements of 40 CFR 63.443(d)(1) through (d)(3). Owners and operators complying with the HAP concentration requirements in 40 CFR 63.443(d)(2) may install a CMS to monitor the thermal oxidizer outlet total HAP or methanol concentration, as an alternative to monitoring thermal oxidizer operating temperature.
(9VAC5-80-110, 40 CFR 63.453(b) and Condition 84 of the 2/25/08 Permit Document)

272. **MACT Subpart S - Unbleached Pulp Mill – Monitoring Requirements** – A CMS shall be operated to measure the following parameters for each steam stripper used to comply with the treatment requirements in 40 CFR 63.446(e)(3), (4) or (5):

    a. The process wastewater feed rate;

    b. The steam feed rate; and

    c. The process wastewater column feed temperature.

    (9VAC5-80-110, 40 CFR 63.453(g) and Condition 84 of the 2/25/08 Permit Document)

273. **MACT Subpart S – Unbleached Pulp Mill – Monitoring Requirements** – A CMS shall be operated to measure the appropriate parameters determined according to the procedures

specified in 40 CFR 63.453(n) to comply with the condensate applicability requirements specified in 40 CFR 63.446(c).
(9VAC5-80-110, 40 CFR 63.453(i) and Condition 84 of the 2/25/08 Permit Document)

274. **MACT Subpart S – Unbleached Pulp Mill (LVHC & HVLC Collection Systems) – Monitoring Requirements** – Each enclosure and closed-vent system used to comply with 40 CFR 63.450(a) shall comply with the requirements specified in 40 CFR 63.453(k)(1) through (k)(6) as follows:

a. For each enclosure opening, a visual inspection of the closure mechanism specified in 40 CFR 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.

b. Each closed-vent system required by 40 CFR 63.450(a) shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures and connections to covers for visible evidence of defects.

c. For positive pressure closed-vent system or portions of closed-vent systems, demonstrate no detectable leaks as specified in 40 CFR 63.450(c) measured initially and annually by the procedures in 40 CFR 63.457(d).

d. Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in 40 CFR 63.457(e).

e. The valve or closure mechanism specified in 40 CFR 63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

f. If an inspection required by 40 CFR 63.453(k)(1) through (k)(5) identifies visible defects in ductwork, piping, enclosures or connections to covers as required by 40 CFR 63.450 or if an instrument reading of 500 parts per million by volume or greater above background is measured or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable:

i. A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.

ii. The repair or corrective action shall be completed no later than 15 days after the problem is identified. Delay of repair or corrective action is allowed if the repair or correction action is technically infeasible without a process unit shutdown or if the owner or operator determines that the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process shutdown.

(9VAC5-80-110, 40 CFR 63.453(k) and Condition 84 of the 2/25/08 Permit Document)

275. **MACT Subpart S - Unbleached Pulp Mill – Monitoring Requirements** – Each pulping process condensate closed collection system used to comply with 40 CFR 63.446(d) shall be visually inspected every 30 days and shall comply with the requirements specified in 40 CFR 63.453(l)(1) through (l)(3).
(9VAC5-80-110, 40 CFR 63.453(l) and Condition 84 of the 2/25/08 Permit Document)

276. **MACT Subpart S - Unbleached Pulp Mill – Monitoring Requirements** – Each owner or operator using a control device, technique or an alternative parameter other than those specified in 40 CFR 63.453(b), (g), (i), (k) and (l) shall install a CMS and establish appropriate operating parameters to be monitored that demonstrate, to the Administrator's satisfaction, continuous compliance with the applicable control requirements.
(9VAC5-80-110, 40 CFR 63.453(m) and Condition 84 of the 2/25/08 Permit Document)

277. **MACT Subpart S - Unbleached Pulp Mill – Monitoring Requirements** – To establish or reestablish the value for each operating parameter required to be monitoring under 40 CFR 63.453(b), (g), (i), (l) and (m) or to establish appropriate parameters for 40 CFR 63.453(i) and (m), each owner and operator shall use the procedures specified in 40 CFR 63.453(n)(1) through (n)(4).
(9VAC5-80-110, 40 CFR 63.453(n) and Condition 84 of the 2/25/08 Permit Document)

278. **MACT Subpart S - Unbleached Pulp Mill – Monitoring Requirements** – Each owner or operator of a control device subject to the monitoring provisions of 40 CFR 63.453 shall operate the control device in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under the applicable requirements of 40 CFR 63.453(a) through (n) and established under 40 CFR Subpart S. Except as provided in 40 CFR 63.443(e) or 40 CFR 63.446(g), operation of the control device below minimum operating parameter values or above maximum operating parameter values established under 40 CFR Subpart S or failure to perform procedures required by 40 CFR Subpart S shall constitute a violation of the applicable emission standard of 40 CFR Subpart S and be reported as a period of excess emissions.
(9VAC5-80-110, 40 CFR 63.453(o) and Condition 84 of the 2/25/08 Permit Document)

279. **MACT Subpart S – Unbleached Pulp Mill – Monitoring Requirements** – At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution and control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but it not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source.
(9VAC5-80-110, 40 CFR 63.453(q) and Condition 84 of the 2/25/08 Permit Document)

Recordkeeping Requirements

280. **MACT Subpart S – Unbleached Pulp Mill – Recordkeeping Requirements** – The permittee shall comply with the recordkeeping requirements of 40 CFR 63.10 as shown in Table 1 to Subpart S and the applicable requirements in 40 CFR 63.454(b) through (g) for the monitoring parameters specified in 40 CFR 63.453.
(9VAC5-80-110, 40 CFR 63.454(a) and Condition 84 of the 2/25/08 Permit Document)

281. **MACT Subpart S – Unbleached Pulp Mill – Recordkeeping Requirements** – For each applicable enclosure opening, closed vent system and closed collection system, the permittee shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment and shall record the information specified in 40 CFR 63.454(b)(1) through (b)(12) which includes, but is not limited to:

    a. Results of negative pressure tests for enclosures;

    b. Results of leak detection tests.

    (9VAC5-80-110 and 40 CFR 63.454(b))

282. **MACT Subpart S – Unbleached Pulp Mill – Recordkeeping Requirements** – The permittee shall record the applicable CMS parameters specified in 40 CFR 63.453 and meet the requirements specified in 40 CFR 63.454(a) for any new affected process equipment or pulping process condensate stream that becomes subject to 40 CFR Part 63 Subpart S due to a process change or modification.
(9VAC5-80-110, 40 CFR 63.454(d) and Condition 84 of the 2/25/08 Permit Document)

283. **MACT Subpart S – Unbleached Pulp Mill – Recordkeeping Requirements** – The permittee shall maintain records of malfunctions in accordance with the requirements of 40 CFR 63.454(g)(1)-(2).
(9VAC5-80-110, 40 CFR 63.454(g) and Condition 84 of the 2/25/08 Permit Document)

Reporting Requirements

284. **MACT Subpart S – Unbleached Pulp Mill – Reporting Requirements** – The permittee shall comply with the reporting requirements of 40 CFR 63 Subpart A as specified in Table 1 to Subpart S of Part 63 and all the applicable requirements in 40 CFR 63.455. These requirements include, but are not limited to:

    a. Malfunction reporting requirements – If a malfunction occurred during the reporting period, the report must include the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operating during a

malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.453(q), including actions taken to correct a malfunction.

b. Performance test reporting – The permittee shall submit test reports as specified in 40 CFR 63.455(h)(1) through (h)(4).

(9VAC5-80-110, 40 CFR 63.455 and Condition 84 of the 2/25/08 Permit Document)

Test Methods and Procedures

285. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures** - Initial and repeat performance tests are required for the emission sources specified in 40 CFR 63.457(a)(1) and (2), except for the emission sources controlled by a combustion device that is designed and operated as specified in 40 CFR 63.443(d)(3) or (4). The permittee shall:

a. Conduct repeat performance tests at five-year intervals for all emission sources subject to the limitations in 40 CFR 63.443(d)(1). The first of the 5-year repeat tests must be conducted by September 7, 2015 and thereafter within 60 months from the date of the previous performance test.

i. Five-year repeat testing is not required for the systems specified in 40 CFR 63.457(a)(2)(i)-(ii).

(9VAC5-80-110, 40 CFR 63.457(a) and Condition 84 of the 2/25/08 Permit Document)

286. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures** - For purposes of selecting vent sampling port locations and determining vent gas stream properties, required in 40 CFR 63.443, the permittee shall comply with the applicable procedures in 40 CFR 63.457(b)(1) through (b)(6).
(9VAC5-80-110, 40 CFR 63.457(b) and Condition 84 of the 2/25/08 Permit Document)

287. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures** - For purposes of selecting liquid sampling locations and for determining properties of liquid streams such as wastewaters, process water and condensates required in 40 CFR 63.446, the permittee shall comply with the procedures specified in 40 CFR 63.457(c)(1) through (c)(5).
(9VAC5-80-110, 40 CFR 63.457(c) and Condition 84 of the 2/25/08 Permit Document)

288. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures** - To measure detectable leaks for closed-vent systems as specified in 40 CFR 63.450 or for pulping process wastewater collection systems as specified in 40 CFR 63.446(d)(2)(i), the permittee shall comply with the following:

a. Method 21, of Part 60, appendix A-7; and

b. The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The calibration gases shall meet the requirements specified in 40 CFR 63.457(d)(2)(i)-(ii).

(9VAC5-80-110, 40 CFR 63.457(d) and Condition 84 of the 2/25/08 Permit Document)

289. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures** - To demonstrate negative pressure at process equipment enclosure openings as specified in 40 CFR 63.450(b), the permittee shall use one of the following procedures:

a. An anemometer to demonstrate flow into the enclosure opening;

b. Measure the static pressure across the opening;

c. Smoke tubes to demonstrate flow into the enclosure opening; or

d. Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.

(9VAC5-80-110, 40 CFR 63.457(e) and Condition 84 of the 2/25/08 Permit Document)

290. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures** - For purposes of complying with the requirements in 40 CFR 63.443, the permittee shall measure the total HAP concentration as one of the following:

a. As the sum of all individual HAPs; or

b. As methanol.

(9VAC5-80-110, 40 CFR 63.457(f) and Condition 84 of the 2/25/08 Permit Document)

291. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures** - For purposes of complying with the kraft pulping condensate requirements in 40 CFR 63.446, the permittee shall measure the total HAP concentration as methanol.
(9VAC5-80-110, 40 CFR 63.457(g) and Condition 84 of the 2/25/08 Permit Document)

292. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures** - To demonstrate compliance with the mass emission rate, mass emission rate per megagram of ODP and percent reduction requirements for vent gas streams specified in 40 CFR 63.443, the permittee shall follow the procedures specified in 40 CFR 63.457(i)(1)-(3).
(9VAC5-80-110, 40 CFR 63.457(i) and Condition 84 of the 2/25/08 Permit Document)

293. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures** - To demonstrate compliance with the mass flow rate, mass per megagram of ODP and percent

reduction requirements for liquid streams specified in 40 CFR 63.446, the permittee shall follow the procedures specified in 40 CFR 63.457(j)(1)-(3).
(9VAC5-80-110, 40 CFR 63.457(j) and Condition 84 of the 2/25/08 Permit Document)

294. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures -** The permittee shall use the following procedures to demonstrate compliance with the condensate segregation requirements specified in 40 CFR 63.446(c):

    a. To demonstrate compliance with the percent mass requirements specified in 40 CFR 63.446(c)(3), the procedures specified in 40 CFR 63.457(m)(2)(i) through (ii) shall be performed.

    (9VAC5-80-110, 40 CFR 63.457(m) and Condition 84 of the 2/25/08 Permit Document)

295. **MACT Subpart S – Unbleached Pulp Mill – Test Methods and Procedures -** The permittee shall conduct performance tests under such conditions as the Administrator specifies based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.
(9VAC5-80-110, 40 CFR 63.457(o) and Condition 84 of the 2/25/08 Permit Document)

Process Equipment Requirements - Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns (REC001, REC002, REC003, REC010, REC011, REC045 & REC047)

Limitations

296. **Process Equipment Requirements – Recovery Furnaces - (REC001 & RE010) – Limitations -** The approved fuels for the No. 1 Recovery Furnace (REC001) and the No. 2 Recovery Furnace (REC010) are natural gas, #6 fuel oil, on-spec or off-spec used oil and black liquor solids (BLS). For the No. 1 Recovery Furnace (REC001), the sulfur content of the #6 fuel oil shall not exceed 1% by weight.
(9VAC5-80-110 and Condition 12 of the 2/23/09 Permit Document)

297. **Process Equipment Requirements – Recovery Furnaces - (REC001 & REC010) – Limitations** – Residual oil (No. 6) burned in the No. 1 Recovery Furnace (REC001) and the No. 2 Recovery Furnace (REC010) shall contain a maximum sulfur content per shipment of 1.0%.
(9VAC5-80-110 and Condition 20 of the 11/20/07 Permit Document)

298. **Process Equipment Requirements – Recovery Furnace – (REC001) – Limitations -** Particulate matter and PM10 emissions from the No. 1 Recovery Furnace (REC001) shall be controlled by an electrostatic precipitator or an alternative control device as approved by DEQ to provide equal or greater control. The electrostatic precipitator or alternative control

device shall be provided with adequate access for inspection and shall be in operation when the No. 1 Recovery Furnace is operating.
(9VAC5-80-110 and Condition 7 of the 2/23/09 Permit Document)

299. **Process Equipment Requirements – Recovery Furnace - (REC001) – Limitations** - Carbon monoxide emissions from the No. 1 Recovery Furnace (REC001) shall be controlled by tertiary combustion air. The No. 1 Recovery Furnace (REC001) shall be provided with adequate access for inspection.
(9VAC5-80-110 and Condition 13 of the 2/25/08 Permit Document)

300. **Process Equipment Requirements – Recovery Furnace - (REC001) – Limitations** - Nitrogen oxide emissions from the No. 1 Recovery Furnace shall be minimized by proper furnace operation and maintenance.
(9VAC5-80-110 and Condition 8 of the 2/23/09 Permit Document)

301. **Process Equipment Requirements - Recovery Furnace – (REC001) – Limitations** - The No. 1 Recovery Furnace (REC001) shall consume no more than 4,500 gallons of No. 6 fuel oil per hour. The amount of fuel oil may increase beyond this limit in proportion to the sulfur content decrease below 1 percent, as long as compliance is maintained with Condition 303 emission limits.
(9VAC5-80-110 and Condition 18 of the 11/20/07 Permit Document)

302. **Process Equipment Requirements - Recovery Furnace – (REC001) – Limitations** - The No. 1 Recovery Furnace shall consume no more than 850,000 gallons of oil (#6 fuel oil and used oil) per year during periods when not co-firing with BLS, calculated monthly as the sum of each consecutive 12-month period.
(9VAC5-80-110 and Condition 13 of the 2/23/09 Permit Document)

303. **Process Equipment Requirements - Recovery Furnace – (REC001) – Limitations** - Emissions from the operation of the No. 1 Recovery Furnace (REC001) shall not exceed the limits specified below:

Particulate Matter	0.044 gr/dscf*	150.0 lbs/hr 85.0 lb/hr annual average	350.0 tons/yr
PM-10	0.044 gr/dscf*	103.8 lbs/hr 58.8 lb/hr annual average	242.2 tons/yr
Sulfur Dioxide		713.7 lbs/hr (firing oil)	---
Carbon Monoxide		325.5 lbs/hr	1,188.2 tons/yr
NOx		211.2 lbs/hr	---

* corrected to 8% oxygen

(9VAC5-80-110, 40 CFR 63.862(a), Condition 26 of the 11/20/07 Permit Document, Condition 66 of the 2/25/08 Permit Document and Condition 17 of the 2/23/09 Permit Document)

304. **Process Equipment Requirements - Recovery Furnace – (REC001) – Limitations -** The No. 1 Recovery Furnace (REC001) shall not emit emissions of total reduced sulfur (TRS) in excess of 5 ppm, 24 hour period average emission rate, corrected to 8% oxygen, for an aggregate period of more than 30 days per year.
(9VAC5-80-110 and Condition 65 of the 2/25/08 Permit Document)

305. **Process Equipment Requirements - Recovery Furnace – (REC001) – Limitations -** Visible emissions from the No. 1 Recovery Furnace (REC001) shall not exceed thirty-five percent (35%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110 and 9VAC5-40-1710)

306. **Process Equipment Requirements - Recovery Furnace and Smelt Dissolving Tanks – (REC001, REC002 & REC003) – Limitations -** Emission control equipment shall be maintained and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations.
(9VAC5-80-110 and Condition 11 of the 2/23/09 Permit Document)

307. **Process Equipment Requirements - Smelt Dissolving Tanks – (REC002 & REC003) – Limitations -** Particulate matter, PM10 and sulfur dioxide emissions from each of the No. 1 Recovery Smelt Dissolving Tanks shall be controlled by a Venturi scrubber with basic solution or an alternative control device as approved by DEQ to provide equal or greater control on each tank. Each Venturi scrubber or alternative control device shall be provided with adequate access for inspection and shall be in operation when the respective Smelt Dissolving Tank is operating. Basic scrubber fluid shall be maintained by addition of caustic to the scrubber fluid.
(9VAC5-80-110 and Condition 9 of the 2/23/09 Permit Document)

308. **Process Equipment Requirements - Smelt Dissolving Tanks – (REC002 & REC003) – Limitations -** Combined emissions from the operation of the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003) shall not exceed the limits specified below:

Particulate Matter	14.1 lbs/hr	58.0 tons/yr
PM-10	12.6 lbs/hr	51.9 tons/yr
Sulfur Dioxide	14.8 lbs/hr	64.8 tons/yr

(9VAC5-80-110, Condition 27 of the 11/20/07 Permit Document and Condition 18 of the 2/23/09 Permit Document)

309. **Process Equipment Requirements - Smelt Dissolving Tanks – (REC002 & REC003) – Limitations -** The No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003) shall not emit emissions of total reduced sulfur (TRS) in excess of 0.033 pounds per ton of black liquor solids processed, measured as H2S.
(9VAC5-80-110 and 9VAC5-40-1690)

310. **Process Equipment Requirements - Smelt Dissolving Tanks – (REC002 & REC003) – Limitations -** Visible emissions from the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003) shall not exceed twenty percent (20%) opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed sixty percent (60%) opacity, as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110 and 9VAC5-40-80)

311. **Process Equipment Requirements - Recovery Furnace – (REC010) – Limitations -** Particulate emissions from the No. 2 Recovery Furnace (REC010) shall be controlled by an electrostatic precipitator (ESP). The ESP shall be provided with adequate access for inspection.
(9VAC5-80-110 and Condition 4 of the 11/20/07 Permit Document)

312. **Process Equipment Requirements - Recovery Furnace – (REC010) – Limitations –** Total Reduced Sulfur (TRS) emissions from the No. 2 Recovery Furnace (REC010) shall be controlled by a non-direct contact evaporator/low total reduced sulfur (TRS) emission design recovery furnace with 1988 state-of-the-art combustion controls.
(9VAC5-80-110 and Condition 4 of the 11/20/07 Permit Document)

313. **Process Equipment Requirements - Recovery Furnace – (REC010) – Limitations -** The No. 2 Recovery Furnace (REC010) shall consume no more than 5,250 gallons of No. 6 fuel oil per hour and 4,200,000 gallons per year. The amount of fuel oil may increase beyond these limits in proportion to the sulfur content decrease below 1 percent, as long as compliance is maintained with Condition 316 emission limits.
(9VAC5-80-110 and Condition 16 of the 11/20/07 Permit Document)

314. **Process Equipment Requirements - Recovery Furnace - (REC010) – Limitations -** The No. 2 Recovery Furnace (REC010) shall consume no more than 750,000 scf of natural gas per hour and 600 million scf per year, annual consumption calculated monthly as the sum of each consecutive 12 month period.
(9VAC5-80-110 and Condition 17 of the 11/20/07 Permit Document)

315. **Process Equipment Requirements - Recovery Furnace – (REC010) – Limitations -** Emissions from the operation of the No. 2 Recovery Furnace (REC010) shall not exceed the limits specified below:

Particulate Matter	0.027 gr/dscf*	68.3 lbs/hr	173.8 tons/yr

PM-10	0.027 gr/dscf*	51.1 lbs/hr	130.0 tons/yr
Sulfur Dioxide (firing #6)		832.7 lbs/hr 79.9 lbs/hr annual average	350.0 tons/yr
Sulfur Dioxide (firing BLS only)		340.7 lbs/hr	350.0 tons/yr
Nitrogen Oxides(as NO2) (firing BLS only)		171.2 lbs/hr 2.44 lbs/ADTP	749.9 tons/yr
Nitrogen Oxides(as NO2) (firing n.g.)		412.5 lbs/hr	796.5 tons/yr
Carbon Monoxide		546.5 lbs/hr 7.79 lbs/ADTP	2,393.6 tons/yr
Volatile Organic Compounds		38.4 lbs/hr	140.0 tons/yr
Total Reduced Sulfur (as H2S) 5 ppm**		7.8 lbs/hr	34.2 tons/yr
Hydrogen Sulfide	5 ppm**	7.8 lbs/hr	34.2 tons/yr
Sulfuric Acid[a]		43.7 lbs/hr	7.3 tons/yr

* corrected to 8% oxygen
** corrected to 8% oxygen, 12 hour period average emission rate

[a]Based on emission factor 0.693 lb SO2/gal oil per NASCI SARA Handbook 95, and hourly 1.2 factor.

(9VAC5-80-110, 40 CFR 60.282(a), 40 CFR 60.283(a), 40 CFR 63.862(a), Condition 21 of the 11/20/07 Permit Document and Conditions 67 and 83 of the 2/25/08 Permit Document)

316. **Process Equipment Requirements - Recovery Furnaces – (REC001 & REC010) – Limitations** - During periods of operation when the No. 1 Recovery Furnace (REC001) is burning fuel oil, or a combination of fuel oil and black liquor, sulfur dioxide emissions from the No. 2 Recovery Furnace (REC010) shall not exceed 340.7 pounds per hour. (9VAC5-80-110 and Condition 22 of the 11/20/07 Permit Document)

317. **Process Equipment Requirements - Recovery Furnace – (REC010) – Limitations** - Visible emissions from the No. 2 Recovery Furnace (REC010) shall not exceed thirty-five percent (35%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110, 40 CFR 60.282(a), Condition 30 of the 11/20/07 Permit Document and Condition 83 of 2/25/08 Permit Document)

318. **Process Equipment Requirements - Smelt Dissolving Tank – (REC011) – Limitations -** Emissions from the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011) shall be controlled by a venturi scrubber, or an equivalent control device approved by VDEQ. The scrubber shall be provided with adequate access for inspection and shall be in operation when the No. 2 Smelt Dissolving Tank is operating.
(9VAC5-80-110 and Condition 2 of the 11/20/07 Permit Document)

319. **Process Equipment Requirements - Smelt Dissolving Tank – (REC011) – Limitations -** Emissions from the operation of the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011) shall not exceed the limits specified below:

Particulate Matter	15.6 lbs/hr	68.4 tons/yr
PM-10	14.0 lbs/hr	61.2 tons/yr
Sulfur Dioxide	14.0 lbs/hr	61.4 tons/yr
Total Reduced Sulfur (as H2S)	1.75 lbs/hr	7.7 tons/yr

(9VAC5-80-110 and Condition 23 of the 11/20/07 Permit Document)

320. **Process Equipment Requirements - Smelt Dissolving Tank – (REC011) – Limitations -** Emissions from the operation of the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011) shall not exceed the limits specified below:

Particulate Matter	0.15 lbs/ton BLS
Total Reduced Sulfur (as H2S)	0.0168 lbs/ton BLS

(9VAC5-80-110, 40 CFR 60.282(a), 40 CFR 60.283(a), 40 CFR 63.862(a), Condition 23 of the 11/20/07 Permit Document and Condition 83 of the 2/25/08 Permit Document)

321. **Process Equipment Requirements - Smelt Dissolving Tank – (REC011) – Limitations -** Visible emissions from the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011) shall not exceed ten percent (10%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110 and Condition 31 of the 11/20/07 Permit Document)

322. **Process Equipment Requirements - Lime Kiln – (REC047) – Limitations -** The approved fuels for the No. 2 Lime Kiln (REC047) are natural gas, No. 2 fuel oil, No. 6 fuel oil, noncondensible gases and/or condensed liquids from the odor control system, on-spec used oil and on site generated off-spec used oil. A change in the fuels may require a permit to modify and operate.
(9VAC5-80-110 and Condition 47 of the 2/25/08 Permit Document)

323. **Process Equipment Requirements - Lime Kiln – (REC047) – Limitations -** The maximum sulfur content of the oil to be burned in the No. 2 Lime Kiln (REC047) shall not exceed 1.0 percent by weight per shipment as an approved alternative in this process as equivalent to meeting a fuel oil sulfur content limit of 0.5 percent. Fuel oil with a maximum 1.0 percent sulfur content has been determined through SO2 emission measurements of this process to be equivalent to 0.5 percent sulfur content fuel oil for BACT for SO2 emissions for this process. The permittee shall maintain records, including certifications, of all oil shipments purchased. These records shall be available for inspection by the DEQ. Such records shall be current for the most recent five years. (9VAC5-80-110 and Condition 48 of the 2/25/08 NSR Permit Document)

324. **Process Equipment Requirements – Recovery Furnaces - (REC001, REC010) and Lime Kiln – (REC047) – Limitations -** The offsite generated used oil shall meet the specifications below, per shipment:

Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash Point	100° F minimum
Total Halogens	4,000 ppm maximum
PCBs	49 ppm maximum
Sulfur	1.0% maximum

(9VAC5-80-110 and Condition 49 of the 2/25/08 Permit Document)

325. **Process Equipment Requirements - Lime Kiln – (REC047) – Limitations -** The permittee shall obtain a certification from the fuel supplier with each shipment of No. 2 fuel oil. If fuel storage is separated for various units, this requirement shall apply only to the No. 2 Lime Kiln (REC047). The permittee shall inform the Blue Ridge Regional Office at least thirty days before a separation of fuel storage occurs. Each fuel supplier certification shall include the following:

a. The name of the fuel supplier;

b. The date on which the No. 2 fuel oil was received;

c. The volume of No. 2 fuel oil delivered in the shipment;

d. A statement that the oil complies with the American Society for Testing and Materials specifications for fuel oil number 2; and

e. The sulfur content of the No. 2 fuel oil.

(9VAC5-80-110 and Condition 51 of the 2/25/08 Permit Document)

326. **Process Equipment Requirements - Lime Kiln – (REC047) – Limitations -** The permittee shall obtain a certification from the fuel supplier with each shipment of No. 6 fuel oil and off site generated used oil. If fuel storage is separated for various units, this requirement shall apply only to the No. 2 Lime Kiln (REC047). The permittee shall inform the Blue Ridge Regional Office at least thirty days before a separation of fuel storage occurs. Each fuel supplier certification shall include the following:

    a. The name of the fuel supplier;

    b. The date on which the No. 6 fuel oil or used oil was received;

    c. The volume of No. 6 fuel oil or used oil delivered in the shipment;

    d. The sulfur content of the No. 6 fuel oil or used oil.

    e. Documentation of sampling of the oil indicating the location of the oil when the sample was drawn.

    f. The method used to determine the sulfur content of the oil.

    (9VAC5-80-110 and Condition 52 of the 2/25/08 Permit Document)

327. **Process Equipment Requirements - Lime Kiln – (REC045) – Limitations -** Particulate emissions from the No. 1 Lime Kiln (REC045) shall be controlled by a venturi scrubber. The scrubber shall be provided with adequate access for inspection. (9VAC5-80-110)

328. **Process Equipment Requirements - Lime Kiln – (REC045) – Limitations -** Emissions from the operation the No. 1 Lime Kiln (REC045) shall not exceed the limits specified below:

Particulate Matter	0.064 gr/dscf*	27.6 lbs/hr	113.6 tons/yr
PM-10	0.064 gr/dscf*	27.0 lbs/hr	111.7 tons/yr
Total Reduced Sulfur (as H2S) 20 ppm**		7.8 lbs/hr	34.2 tons/yr

    * corrected to 10% oxygen
    ** corrected to 10% oxygen, 24 hour period average emission rate

    (9VAC5-80-110, 9VAC5-40-1660, CFR 63.862(a) and Condition 28 of the 11/20/07 Permit Document)

329. **Process Equipment Requirements - Lime Kiln – (REC045) – Limitations -** Visible emissions from the No. 1 Lime Kiln (REC045) shall not exceed twenty percent (20%)

opacity, except for one six-minute period in any one hour in which visible emissions shall not exceed sixty percent (60%) opacity, as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9VAC5-80-110 and 9VAC5-40-80)

330. **Process Equipment Requirements - Lime Kiln – (REC045) – Limitations** - The No. 1 Lime Kiln (REC045) shall maintain a minimum temperature of 1200 °F and 0.5 seconds retention time while combusting noncondensible gases and/or condensed liquids from the odor control system.
(9VAC5-80-110, 40 CFR 60.283(a) and Condition 83 of the 2/25/08 Permit Document)

331. **Process Equipment Requirements - Lime Kiln – (REC045) – Limitations** - The No. 1 Lime Kiln (REC045) stack shall be a minimum of 65 meters (213 feet) above ground level.
(9VAC5-80-110 and Condition 14 of the 11/20/07 Permit Document)

332. **Process Equipment Requirements - Lime Kiln – (REC047) – Limitations** - Particulate emissions from No. 2 Lime Kiln (REC047) shall be controlled by an electrostatic precipitator (ESP). The ESP shall be provided with adequate access for inspection.
(9VAC5-80-110 and Condition 10 of the 2/25/08 Permit Document)

333. **Process Equipment Requirements - Lime Kiln – (REC047) – Limitations** - The No. 2 Lime Kiln (REC047) shall process no more than 262,800 tons per year, calculated monthly as the sum of the previous consecutive 12 months' throughput of lime (as CaO).
(9VAC5-80-110 and Condition 41 of the 2/25/08 Permit Document)

334. **Process Equipment Requirements - Lime Kiln – (REC047) – Limitations** - Emissions from the operation of the No. 2 Lime Kiln (REC047) shall not exceed the limits specified below:

Particulate Matter	0.020 gr/dscf* 0.015 gr/dscf* annual average	14.8 lbs/hr	45.4 tons/yr
PM-10	0.018 gr/dscf* 0.013 gr/dscf* annual average	13.1 lbs/hr	40.2 tons/yr
Sulfur Dioxide		45.4 lbs/hr	165.6 tons/yr
Nitrogen Oxides(as NO2)		104.4 lbs/hr	381.1 tons/yr
Carbon Monoxide		31.3 lbs/hr	114.3 tons/yr
Volatile Organic Compounds		34.5 lbs/hr	126.1 tons/yr
Total Reduced Sulfur (as H2S) 8 ppm**		3.7 lbs/hr***	16.0 tons/yr

Hydrogen Sulfide	3.1 lbs/hr***	11.4 tons/yr

* corrected to 10% oxygen
** corrected to 10% oxygen, 12 hour period average emission rate
*** 12 hour period average emission rate

(9VAC5-80-110, 40 CFR 60.283(a), 40 CFR 63.862(a) and Conditions 59 and 83 of the 2/25/08 Permit Document)

335. **Process Equipment Requirements - Lime Kiln – (REC047) – Limitations** - Visible emissions from the No. 2 Lime Kiln (REC047) shall not exceed twenty percent (20%) opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed thirty percent (30%) opacity, as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during start-up, shut-down, and malfunction.
(9VAC5-80-110 and Condition 78 of the 2/25/08 Permit Document)

Monitoring

336. **Process Equipment Requirements - Recovery Furnace and Lime Kiln – (REC001 & REC045) – Monitoring** - For the No. 1 Recovery Furnace (REC001) and the No. 1 Lime Kiln (REC045), the facility shall maintain, and operate TRS and oxygen continuous monitoring systems and keep records and report in accordance with 9VAC5-40-1770 and 1780. The facility shall calculate and record on a daily basis 24-hour average TRS and oxygen concentrations, and the TRS concentration corrected to 8 volume percent oxygen for the recovery furnace and the TRS concentration corrected to 10 volume percent oxygen for the lime kiln. All periods of excess emissions shall be reported on the quarterly reports.
(9VAC5-80-110 and 9VAC5-40-1660)

337. **Process Equipment Requirements - Recovery Furnace – (REC010) – Monitoring** – Continuous Emission Monitoring Systems shall be installed to measure and record the emissions of total reduced sulfur from the No. 2 Recovery Furnace (REC010) as ppmv corrected to 8% O2. The CEMS shall be installed, calibrated, maintained, audited and operated in accordance with the requirements of 40 CFR 60.13, NSPS BB and Appendix B to Part 60 or VDEQ approved procedures which are equivalent to these requirements. The monitoring systems shall include an oxygen monitor. The permittee shall perform the following:

    a. Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under for CFR 60.284(a)(2).

b. Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under 40 CFR 60.284(a)(2).

   i. The TRS concentration shall be corrected to 8 volume percent oxygen.

c. For the purpose of reports required under 40 CFR 60.7(c), the permittee shall report quarterly periods of excess emissions in accordance with 40 CFR 60.284(d).

   i. Periods of excess emissions shall not be indicative of a violation of 40 CFR 60.11(d) provided that excess emissions do not exceed one percent per quarter for TRS, (excluding periods of startup, shutdown, malfunction and periods when the emission unit is not operating).

(9VAC5-80-110, 40 CFR 60.284(a), (c), (d), (e), Condition 36 of the 11/20/07 Permit Document and Condition 83 of the 2/25/08 Permit Document)

338. **Process Equipment Requirements - Lime Kiln – (REC047) – Monitoring** – Continuous emission monitors shall be installed on the No. 2 Lime Kiln to measure and record the concentration, on a dry basis, of total reduced sulfur emissions and oxygen. The monitor(s) shall be maintained, located and calibrated in accordance with approved procedures (ref. 40 CFR 60.13 and 40 CFR 60.284). A thirty (30) day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Blue Ridge Regional Office. The permittee shall perform the following:

a. Calculate and record on a daily basis the 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under for CFR 60.284(a)(2).

b. Calculate and record on a daily basis the 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under 40 CFR 60.284(a)(2).

   i. The TRS concentration shall be corrected to 10 volume percent oxygen.

c. For purposes of reports required under 40 CFR 60.7(c), the permittee shall report quarterly periods of excess emissions in accordance with 40 CFR 60.284(d).

(9VAC5-80-110, 40 CFR 60.284(a), (c), (d) and Conditions 24 and 83 of the 2/25/08 Permit Document)

339. **Process Equipment Requirements - Lime Kiln – (REC045) – Monitoring -** For the No. 1 Lime Kiln (REC045), during those period when the kiln is used to combust noncondensible gases and/or condensed liquids from the odor control system, the facility shall maintain and operate a Temperature Monitoring System, keep records, and report in quarterly reports as excess emissions, all periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200 °F. (9VAC5-80-110, 40 CFR 60.284(d) and Condition 83 of the 2/25/08 Permit Document)

340. **Process Equipment Requirements - Recovery Furnace – (REC010) – Monitoring -** Continuous Opacity Monitoring Systems shall be installed to measure and record the opacity of emissions from the No. 2 Recovery Furnace (REC010). The COMS shall be installed, calibrated, maintained and operated in accordance with the requirements of 40 CFR 60.13 and Appendix B or VDEQ approved procedures which are equivalent to the requirements of 40 CFR 60.13 and Appendix B. Data shall be reduced to six minute averages.

    a. For purposes of reports required under 40 CFR 60.7(c), the permittee shall report quarterly periods of excess emissions in accordance with 40 CFR 60.284(d).

    (9VAC5-80-110, 40 CFR 60.284(a) and (d), Condition 38 of 11/20/07 Permit Document and Condition 83 of the 2/25/08 Permit Document)

341. **Process Equipment Requirements - Recovery Furnace and Lime Kiln – (REC010 & REC047) – Monitoring -** The permittee shall follow the procedures under 40 CFR 60.13 for the installation, evaluation and operation of the continuous monitoring systems required by 40 Part 60 Subpart BB. All continuous monitoring systems shall be operated in accordance with the applicable procedures under Performance Specifications 1, 3 and 5 of Appendix B of Part 60.
(9VAC5-80-110, 40 CFR 60.284(f) and Condition 83 of the 2/25/08 Permit Document)

342. **Process Equipment Requirements - Recovery Furnace - (REC010) – Monitoring** – Continuous Emission Monitoring Systems shall be installed to measure and record the emissions of sulfur dioxide from the No. 2 Recovery Furnace (REC010) as ppmv. The CEMS shall be installed, calibrated, maintained, audited and operated in accordance with the requirements of 40 CFR 60.13 and Appendix B or VDEQ approved procedures which are equivalent to these requirements. All periods of excess emissions shall be reported on the quarterly reports.
(9VAC5-80-110 and Condition 37 of 11/20/07 Permit Document)

343. **Process Equipment Requirements - Recovery Furnace and Smelt Dissolving Tanks – (REC001, REC002 & REC003) – Monitoring -** The pollution control devices required by Conditions 298 and 307 or subsequently approved as replacements for such devices shall be equipped with one or more devices to continuously monitor the performance of each control device. Such monitors may include but are not limited to primary and secondary voltages for electrostatic precipitators and liquid flow rate and air pressure drop for

scrubbers. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the respective emission unit is operating.
(9VAC5-80-110 and Condition 19 of the 2/23/09 Permit Document)

344. **Process Equipment Requirements - Smelt Dissolving Tank – (REC011) – Monitoring** – The venturi scrubber controlling the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011) shall be equipped with devices to continuously measure the differential pressure across the scrubber and the scrubber liquid pressure. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection. Each monitoring device shall be properly calibrated and maintained, and shall be in operation at all times the No. 2 Smelt Dissolving Tank is operating, excepting brief periods of instrument maintenance.

a. The monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment shall be certified as specified in 40 CFR 60.284(b)(2)(i).

b. The monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment shall be certified and located as specified in 40 CFR 60.284(b)(2)(ii).

    i. The permittee shall record once per shift measurements obtained from the continuous monitoring devices installed under 40 CFR 60.284(b)(2).

(9VAC5-80-110, 60.284(b) and (c), Condition 3 of 11/20/07 Permit Document and Condition 83 of the 2/25/08 Permit Document)

345. **Process Equipment Requirements - Recovery Furnace, Smelt Dissolving Tanks and Lime Kiln – (REC001, REC002, REC003, REC011 & REC045) – Monitoring** – At least one time per calendar week, an observation of the presence of visible emissions from the following stacks shall be made: the No. 1 Recovery Furnace (REC001), the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003), the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011) and the No. 1 Lime Kiln (REC045). The presence of visible emissions shall require the permittee to:

a. take timely corrective action such that the emissions unit resumes operation with no visible emissions, or

b. conduct a visible emission evaluation (VEE) on the emissions unit stack in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6)

minutes, to assure visible emissions from the emissions unit stack are in compliance with the conditions of this permit. If any of the observations exceed the unit's opacity limitation as outlined in this permit, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the emissions unit resumes operation within the unit's opacity limit as outlined in this permit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log for each emission unit (REC002, REC003, REC011, REC045 & REC001) to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If an emission unit has not been operated for any period during the entire week, it shall be noted in the log book.

A continuous opacity monitor may be substituted for either of these observations. (9VAC5-80-110 E & K)

Compliance Assurance Monitoring

346. **Process Equipment Requirements – Recovery Furnace – (REC001) - Compliance Assurance Monitoring (CAM) -**The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the electrostatic precipitator controlling PM10 from the No. 1 Recovery Furnace. For the purposes of this permit, PM10 from the No. 1 Recovery Furnace is referred to as "PSEU7:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-7 – prior to ESP replacement upgrade) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ. (9VAC5-80-110 and 40 CFR 64.6(c))

347. **Process Equipment Requirements – Recovery Furnace – (REC001) - Compliance Assurance Monitoring (CAM) -**The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the electrostatic precipitator controlling PM10 from the No. 1 Recovery Furnace. For the purposes of this permit, PM10 from the No. 1 Recovery Furnace is referred to as "PSEU8:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-7a – after ESP replacement upgrade) or the most recent revision to

this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ.
(9VAC5-80-110 and 40 CFR 64.6(c))

348. **Process Equipment Requirements – Recovery Furnace Smelt Dissolving Tanks – (REC002 & REC003) - Compliance Assurance Monitoring (CAM) -**The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the scrubbers controlling PM10 and sulfur dioxide from the No. 1 Recovery Furnace Smelt Dissolving Tanks. For the purposes of this permit, PM10 and sulfur dioxide from the No. 1 Recovery Furnace Smelt Dissolving Tanks are referred to as "PSEU9:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-8) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ.
(9VAC5-80-110 and 40 CFR 64.6(c))

349. **Process Equipment Requirements –Recovery Furnace – (REC010) - Compliance Assurance Monitoring (CAM) -**The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the electrostatic precipitator controlling PM10 from the No. 2 Recovery Furnace. For the purposes of this permit, PM10 from the No. 2 Recovery Furnace is referred to as "PSEU10:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-9) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ.
(9VAC5-80-110 and 40 CFR 64.6(c))

350. **Process Equipment Requirements – Recovery Furnace Smelt Dissolving Tank – (REC011) - Compliance Assurance Monitoring (CAM) -**The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the scrubber controlling PM10 and sulfur dioxide from the No. 2 Recovery Furnace Smelt Dissolving Tank. For the purposes of this permit, PM10 and sulfur dioxide from the No. 2 Recovery Furnace Smelt Dissolving Tank are referred to as "PSEU11:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-10) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ.

(9VAC5-80-110 and 40 CFR 64.6(c))

351. **Process Equipment Requirements – Lime Kiln – (REC045) - Compliance Assurance Monitoring (CAM)** -The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the scrubber controlling PM10 from the No. 1 Lime Kiln. For the purposes of this permit, PM10 from the No. 1 Lime Kiln is referred to as "PSEU12:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-11) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ. (9VAC5-80-110 and 40 CFR 64.6(c))

352. **Process Equipment Requirements – Lime Kiln – (REC047) - Compliance Assurance Monitoring (CAM)** -The permittee shall implement an approved Compliance Assurance Monitoring (CAM) Plan to monitor the electrostatic precipitator controlling PM10 from the No. 2 Lime Kiln. For the purposes of this permit, PM10 from the No. 2 Lime Kiln is referred to as "PSEU13:" with the acronym PSEU standing for Pollutant Specific Emissions Unit. The approved monitoring plan shall be the attached CAM Plan (Table XI-12) or the most recent revision to this plan that has been: (1) developed and approved pursuant to 40 CFR 64.7(e) and Condition 457; (2) revised pursuant to a Quality Improvement Plan in accordance with 40 CFR 64.8 and Condition 458; or (3) otherwise approved by the DEQ conforming with Condition 451, including, but not limited to, changes initiated by DEQ. (9VAC5-80-110 and 40 CFR 64.6(c))

Recordkeeping

353. **Process Equipment Requirements - Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – (REC001, REC002, REC003, REC010, REC011, REC045 and REC047) – Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall, if requested, be arranged with the Blue Ride Regional Office. These records shall include, but are not limited to:

    a. Hourly, monthly and annual consumption of No. 6 fuel oil in the No. 1 Recovery Furnace (REC001), annual consumption calculated monthly as the sum of each consecutive 12-month period. (Hourly only for sulfur content greater the 0.5%.)

    b. Monthly and annual consumption of black liquor solids in the No. 1 Recovery Furnace (REC001), annual consumption calculated monthly as the sum of each consecutive 12-month period.

    c. Consumption of natural gas in the No. 1 Recovery Furnace, calculated monthly as the sum of each consecutive 12-month period.

d. Consumption of oil (including #6 fuel oil and used oil) when not co-firing with BLS in the No. 1 Recovery Furnace, calculated monthly as the sum of each consecutive 12-month period to demonstrate compliance with the throughput limits in Condition 302.

e. Hourly, monthly and annual consumption of No. 6 fuel oil in the No. 2 Recovery Furnace (REC010), annual consumption calculated monthly as the sum of each consecutive 12-month period. (Hourly only for sulfur content greater the 0.5%.)

f. Hourly, monthly and annual consumption of natural gas in the No. 2 Recovery Furnace (REC010), annual consumption calculated monthly as the sum of each consecutive 12- month period. Hourly stipulation applies only when firing exclusively with natural gas.

g. Monthly and annual consumption of black liquor solids in the No. 2 Recovery Furnace (REC010), annual consumption calculated monthly as the sum of each consecutive 12-month period.

h. Monthly and annual consumption of natural gas, No. 2 fuel oil, and No. 6 fuel oil in the No. 1 Lime Kiln (REC045) and the No. 2 Lime Kiln (REC047), annual consumption calculated monthly as the sum of each consecutive 12-month period.

i. Fuel oil certifications of all oil shipments purchased indicating sulfur content per shipment.

j. Monthly and annual production of lime in the No. 1 Lime Kiln (REC045), annual production calculated monthly as the sum of each consecutive 12-month period.

k. Monthly and annual production of lime in the No. 2 Lime Kiln (REC047), annual production calculated monthly as the sum of each consecutive 12-month period.

l. Records from the continuous TRS and oxygen monitoring systems on the No. 1 Recovery Furnace (REC001), the No. 2 Recovery Furnace (REC010), the No. 1 Lime Kiln (REC045), and the No. 2 Lime Kiln (REC047).

m. Records from the Continuous Opacity Monitoring Systems on the No. 1 Recovery Furnace (REC001) (or alternate monitoring method if approved by USEPA), the No. 2 Recovery Furnace (REC010) and the No. 2 Lime Kiln (REC047).

n. Records of continuous temperature monitoring of the No. 1 Lime Kiln (REC045) for any period when the kiln is used to combust noncondensible gases and/or condensed liquids from the odor control system.

o. Records of the pressure drop across the scrubber and the scrubbing liquid flow rate for the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003), the No. 2

Recovery Furnace Smelt Dissolving Tank (REC011), the No. 1 Lime Kiln (REC045) and records of the scrubbing liquid supply pressure for the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011).

p. Monthly and annual measured or estimated emissions of particulate matter, PM-10, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, and TRS from each recovery furnace (REC001, & REC010). Annual emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

q. Monthly average emission rates of nitrogen oxides and carbon monoxide per ton of air dried pulp from the No. 2 Recovery Furnace (REC010).

r. Annual measured or estimated emissions of particulate matter, PM-10, sulfur dioxide, and TRS from the smelt dissolving tanks (REC002, REC003, & REC011) and monthly averages of pounds of particulate matter and TRS per ton of black liquor solids processed. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12-month period.

s. Annual measured or estimated emissions of particulate matter, PM-10, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, and TRS from each lime kiln (REC045, & REC047). Annual emissions shall be calculated monthly as the sum of the previous consecutive 12-month period.

t. At the request of DEQ, measured or estimated monthly and annual emissions of volatile organic compounds, particulate matter, PM-10, carbon monoxide, nitrogen oxides, sulfur dioxide, and total reduced sulfur from the recovery furnaces, smelt dissolving tanks and lime kilns, as a group, using emission factors acceptable to VDEQ.

u. Observation logs for the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003), the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011), the No. 1 Lime Kiln (REC045) and the No. 1 Recovery Furnace (REC001) as required by Condition 345.

v. Results of all stack tests, visible emission evaluations and performance evaluations.

w. Continuous monitoring system data, including calibrations and quality assurance checks.

x. Records of scheduled and unscheduled maintenance and operator training for pollution control equipment.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9VAC5-80-110, 40 CFR 60.284, Conditions 16 and 40 of the 11/20/07 Permit Document, Conditions 83 and 106 of 2/25/08 Permit Document and Condition 23 of the 2/23/09 Permit Document)

Testing

354. **Process Equipment Requirements - Recovery Furnace – (REC001) - Testing** – At an interval not to exceed five years, the permittee shall conduct performance tests for particulate matter from the No. 1 Recovery Furnace (REC001) to demonstrate compliance with the emission limits contained in this permit. Additionally, upon request and proper notification by the DEQ, the permittee shall conduct performance tests for particulate matter, PM-10, sulfur dioxide and/or carbon monoxide from the No. 1 Recovery Furnace (REC001) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(VAC5-80-110, Condition 35 of the 11/20/07 Permit Document and Condition 100 of the 2/25/08 Permit Document)

355. **Process Equipment Requirements - Smelt Dissolving Tanks – (REC002, REC003) - Testing** - At an interval not to exceed five years, the permittee shall conduct performance tests for particulate matter and TRS from the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003) to demonstrate compliance with the emission limit contained in this permit. Additionally upon request by the DEQ, the permittee shall conduct performance tests for particulate matter, PM-10 and TRS from the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 35 of the 11/20/07 Permit Document)

356. **Process Equipment Requirements - Recovery Furnace – (REC010) - Testing** – At an interval not to exceed five years, the permittee shall conduct performance tests for particulate matter from the No. 2 Recovery Furnace (REC010) to demonstrate compliance with the emission limits contained in this permit. Additionally upon request and proper notification by the DEQ, the permittee shall conduct performance tests for particulate matter, PM-10, sulfur dioxide, volatile organic compounds, total reduced sulfur, hydrogen sulfide, sulfuric acid and carbon monoxide from the No. 2 Recovery Furnace (REC010) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110, Condition 32 of the 11/20/07 Permit Document and Condition 101 of the 2/25/08 Permit Document)

357. **Process Equipment Requirements - Smelt Dissolving Tank – (REC011) – Testing** - At an interval not to exceed five years, the permittee shall conduct performance tests for particulate matter, sulfur dioxide and TRS from the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011) to demonstrate compliance with the emission limits contained in this permit. Additionally upon request by the DEQ, the permittee shall conduct

performance tests for particulate matter, PM-10, sulfur dioxide and TRS from the No. 2 Smelt Dissolving Tank (REC011) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 33 of the 11/20/07 Permit Document)

358. **Process Equipment Requirements - Recovery Furnace and Smelt Dissolving Tank – (REC010 & REC011) – Testing** - Upon request by the DEQ, the permittee shall conduct performance tests for methanol, hydrogen sulfide and/or methyl mercaptan from the No. 2 Recovery Furnace (REC010) and/or No. 2 Smelt Dissolving Tank (REC011) to demonstrate conformity of emission parameters with the modeling required by the October 12, 1988 PSD Permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 34 of the 11/20/07 Permit Document)

359. **Process Equipment Requirements - Lime Kiln – (REC045) - Testing** – At an interval not to exceed five years, the permittee shall conduct performance tests for particulate matter from the No. 1 Lime Kiln (REC045) to demonstrate compliance with the emission limits contained in this permit. Additionally upon request by the DEQ, the permittee shall conduct tests for particulate matter and PM-10 from the No. 1 Lime Kiln (REC045) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 35 of the 11/20/07 Permit Document)

360. **Process Equipment Requirements - Lime Kiln – (REC047) – Testing** – At an interval not to exceed five years, the permittee shall conduct performance tests for particulate matter and sulfur dioxide from the No 2 Lime Kiln (REC047) to demonstrate compliance with the emission limits contained in this permit. Additionally upon request and proper notification by the DEQ, the permittee shall conduct performance tests for particulate matter, PM-10, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, hydrogen sulfide and/or total reduced sulfur from the No. 2 Lime Kiln (REC047) to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 97 of the 2/25/08 Permit Document)

361. **Process Equipment Requirements - Lime Kilns – (REC045 &REC047) – Testing** - Upon request and proper notification by the DEQ, the permittee shall conduct additional visible emission evaluations from the No. 1 Lime Kiln (REC045) and the No. 2 Lime Kiln (REC047) to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 102 of the 2/25/08 Permit Document)

362. **Process Equipment Requirements - Recovery Furnace and Lime Kiln – (REC010, REC045 & REC047) – Testing** – A CEMS/COMS quality control program which is equivalent to the requirements of 40 CFR 60.13 and Appendix B or F shall be implemented

for all continuous monitoring systems required by the 2/25/08 NSR permit or an applicable NSPS or MACT.
(9VAC5-80-110 and Condition 103 of the 2/25/08 Permit Document)

Reporting

363. **Process Equipment Requirements - Recovery Furnace and Lime Kiln – (REC010, REC045 & REC047) – Reporting -** For the purpose of reports required under 40 CFR 60.7, the permittee shall report quarterly periods of excess emissions in accordance with the requirements of 40 CFR 60.284(d)(1) and (d)(2).

    a. For emissions from any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper systems periods of excess emissions are:

        i. All periods in excess of 5 minutes and their duration during which the combustion at the point of incineration is less than 1200 degrees F, where the provisions of 40 CFR 60.283(a)(1)(iii) apply.

(9VAC5-80-110, 40 CFR 60.284(d) and Condition 83 of the 2/25/08 Permit Document)

MACT Subpart MM – Chemical Recovery Combustion Sources at Kraft Pulp Mills (REC001, REC002, REC003, REC010, REC011, REC045 & REC047)

General Compliance Requirements

364. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kiln – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – General Compliance Requirements –** The permittee shall comply with the applicable General Provisions as specified in Table 1 to Subpart MM of Part 63.
(9VAC5-80-110, 40 CFR 63.860(c) and Condition 85 of the 2/25/08 Permit Document)

365. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kiln – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – General Compliance Requirements –** The permittee shall operate and maintain any affected source, including air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the source.
(9VAC5-80-110, 40 CFR 63.860(d) and Condition 85 of the 2/25/08 Permit Document)

Standards

366. **MACT Subpart MM - (Recovery Furnace – REC001) – Standards** – The permittee must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere from the No. 1 Recovery Furnace (REC001) is less than or equal to 0.044 grain per dry standard cubic foot (gr/dscf) corrected to 8 percent oxygen.
(9VAC5-80-110, 40 CFR 63.862(a) and Condition 85 of the 2/25/08 Permit Document)

367. **MACT Subpart MM - (Smelt Dissolving Tanks – REC002 & REC003) – Standards** – The permittee must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere from the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003) is less than or equal to 0.20 pound per ton (lb/ton) of black liquor solids fired.
(9VAC5-80-110, 40 CFR 63.862(a) and Condition 85 of the 2/25/08 Permit Document)

368. **MACT Subpart MM - (Lime Kiln – REC045) – Standards** – The permittee must ensure that the concentration of PM in the exhaust gases discharged to the atmosphere from the No. 1 Lime Kiln (REC045) is less than or equal to 0.064 gr/dscf corrected to 10 percent oxygen.
(9VAC5-80-110, 40 CFR 63.862(a) and Condition 85 of the 2/25/08 Permit Document)

Monitoring Requirements

369. **MACT Subpart MM - (Recovery Furnaces and Lime Kiln – REC001 (after ESP replacement), REC010 & REC047) – Monitoring Requirements** – The owner or operator of each affected kraft recovery furnace or lime kiln equipped with an ESP shall install, calibrate maintain and operate a COMS in accordance with Performance Specification 1 (PS-1) in Appendix B to 40 CFR Part 60 and the provisions in 40 CFR 63.6(h) and 40 CFR 63.8 and 40 CFR 63.864(d)(3) and (d)(4).
(9VAC5-80-110, 40 CFR 63.864(d) and Condition 85 of the 2/25/08 Permit Document)

370. **MACT Subpart MM - (Recovery Furnace – REC001) – Monitoring Requirements** - The owner or operator of each affected source or process unit that uses an ESP may monitor alternative control device operating parameters subject to prior written approval by the EPA. The request for approval must also include the manner in which the parameter operating limit is to be set.
(9VAC5-80-110, 40 CFR 63.864(e) and Condition 85 of the 2/25/08 Permit Document)

371. **MACT Subpart MM - (Recovery Furnaces and Lime Kiln – REC001, REC010 & REC047) – Monitoring Requirements** – Effective October 11, 2019, the permittee shall maintain proper operation of the ESP's automatic voltage control (AVC).
(9VAC5-80-110, 40 CFR 863(c) and 40 CFR 63.864(e))

372. **MACT Subpart MM - (Smelt Dissolving Tanks and Lime Kiln – REC002, REC003, REC011 and REC045) – Monitoring Requirements** – The owner or operator of each affected kraft lime kiln or kraft smelt dissolving tank equipped with a wet scrubber shall install, calibrate, maintain and operate a CPMS that can be used to determine and record the pressure drop across the scrubber and scrubbing liquid flow rate at least once every

successive 15-minute period using the procedures in 40 CFR 63.8(c), as well as the procedures in 40 CFR 63.864(e)(10)(i) and (ii).
(9VAC5-80-110, 40 CFR 63.864(e) and Condition 85 of the 2/25/08 Permit Document)

373. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – Monitoring Requirements –** The permittee shall keep CMS data quality assurance procedures consistent with the requirements in 40 CFR 63.8(d)(1) and (2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of 40 CFR Part 63 Subpart MM, to be made available for inspection, upon request, by the Administrator.

    a. If the performance evaluation plan in 40 CFR 63.8(d)(2) is revised, the permittee shall keep previous (i.e. superseded) versions of the performance evaluation plan on record in accordance with 40 CFR 63.864(f).

    (9VAC5-80-110, 40 CFR 63.864(f) and Condition 85 of the 2/25/08 Permit Document)

374. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – Monitoring Requirements –** During the initial or periodic performance test required in 40 CFR 63.865, the permittee of any affected source or process unit shall establish operating limits for the applicable monitoring parameters in 40 CFR 63.864(e)(1) and (2) and (e)(10) through (e)(14); as appropriate; or

    a. The permittee may base operating limits on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating limits in accordance with the requirements outlined in 40 CFR 63.864(j)(2).

    (9VAC5-80-110, 40 CFR 63.864(j) and Condition 85 of the 2/25/08 Permit Document)

375. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – Monitoring Requirements –** The owner or operator of an affected source or process unit may establish expanded or replacement operating limits for the applicable monitoring parameters listed in 40 CFR 63.864(e)(1) and (2) and (e)(10)though (e)(14) according to the requirements outlined in 40 CFR 63.864(j)(3).
(9VAC5-80-110, 40 CFR 63.864(j) and Condition 85 of the 2/25/08 Permit Document)

376. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – Monitoring Requirements –** The permittee must continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test run.

a. Multiple performance tests may be conducted to establish a range of parameter values. Operating limits must be confirmed or reestablished during performance tests.

b. New, expanded or replacement operating limits for the monitoring parameter values listed in 40 CFR 63.864(e)(1) and (e)(2) and 40 CFR 63.864(e)(10) through (e)(14) should be determined as described in 40 CFR 63.864(j)(5)(i) and (ii).

(9VAC5-80-110, 40 CFR 63.864(j) and Condition 85 of the 2/25/08 Permit Document)

377. **MACT Subpart MM - (Lime Kiln - REC045) – Monitoring Requirements -** The permittee shall comply with the following monitoring requirements specified in 40 CFR 63.864 for the No. 1 Lime Kiln (REC045):

a. For an existing lime kiln equipped with a wet scrubber, corrective action shall be implemented when any 3-hour average parameter value is outside the range of values established in 40 CFR 63.864(j).

b. Owners or operators of all affected sources or process units are in violation of the standards of 40 CFR 63.862 when six or more 3-hour average parameter values within any six month reporting period are outside the range of values established in 40 CFR 63.864(j).

i. For purposes of determining the number of non-opacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.

(9VAC5-80-110, 40 CFR 63.864(k) and Condition 85 of the 2/25/08 Permit Document)

378. **MACT Subpart MM - (Lime Kiln - REC045) – Monitoring Requirements –** Effective October 11, 2019, the permittee shall comply with the following monitoring requirements specified in 40 CFR 63.864 for the No. 1 Lime Kiln (REC045) when lime mud is fed:

a. For an existing lime kiln equipped with a wet scrubber, corrective action shall be implemented when any 3-hour average parameter value is below the minimum operating limit established in 40 CFR 63.864(j), with the exception of pressure drop during periods of startup and shutdown.

b. Owners or operators of all affected sources or process units are in violation of the standards of 40 CFR 63.862 when six or more 3-hour average parameter values within any 6-month reporting period are below the minimum operating limits established in 40 CFR 63.864(j), with the exception of pressure drop during periods of startup and shutdown.

i. For purposes of determining the number of nonopacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.

(9VAC5-80-110, 40 CFR 63.863(c) and 40 CFR 63.864(k))

379. **MACT Subpart MM – (Lime Kiln - REC047) – Monitoring Requirements** – The permittee shall comply with the following monitoring requirements specified in 40 CFR 63.864 for the No. 2 Lime Kiln (REC047):

a. For an existing lime kiln equipped with an ESP, corrective action shall be implemented when the average of ten consecutive 6-minute averages result in a measurement greater than twenty percent opacity.

b. Owners or operators of all affected sources or process units are in violation of the standards of 40 CFR 63.862 when opacity is greater than twenty percent for six percent or more of the operating time within any quarterly period.

c. Effective October 11, 2019, owners or operators of all affected sources are in violation of the standards of 40 CFR 63.862 if the monitoring exceedances in 40 CFR 63.862(k)(2)(iii) occur when lime mud is fed:

i. For an existing lime kiln equipped with an ESP, when opacity is greater than twenty percent for three percent or more of the operating time within any semiannual period.
(40 CFR 63.863(c))

(9VAC5-80-110, 40 CFR 63.864(k) and Condition 85 of the 2/25/08 Permit Document)

380. **MACT Subpart MM – (Recovery Furnaces - REC001 (after ESP replacement) & REC010) – Monitoring Requirements -** The permittee shall comply with the following monitoring requirements specified in 40 CFR 63.864 for the No. 1 Recovery Furnace (REC001) after ESP replacement and No. 2 Recovery Furnace (REC002):

a. For an existing kraft recovery furnace equipped with an ESP, corrective action shall be implemented when the average of ten consecutive 6-minute averages results in a measurement greater than twenty percent opacity;

b. The owners or operators of all affected sources or process units are in violation of the standards of 40 CFR 63.862 when opacity is greater than thirty-five percent for six percent or more of the operating time within any quarterly period.

c. Effective October 11, 2019, owners or operators of all affected sources or process units are in violation of the standards of 40 CFR 63.862 if the following monitoring exceedances in 40 CFR 63.862(k)(2)(i) occur when spent pulping liquor is fed:

i. For an existing kraft recovery furnace equipped with an ESP, when opacity is greater than thirty-five percent for two percent or more of the operating time within any semiannual period.

(40 CFR 63.863(c))

(9VAC5-80-110, 40 CFR 63.864(k) and Condition 85 of the 2/25/08 Permit Document)

381. **MACT Subpart MM – (Recovery Furnace – REC001) – Monitoring Requirements** - The permittee may monitor alternative control device operating parameters as approved by USEPA for the No. 1 Recovery Furnace instead of a continuous opacity monitor; and would be subject to USEPA's approval conditions as an alternative monitoring methodology. In addition, the facility shall comply with the following:

    a. Corrective Action shall be implemented when any three hour average value does not meet the operating limit established in 40 CFR 63.864(j)

    b. A violation occurs when six or more 3-hour values within any six month reporting period do not meet the operating limits established in 40 CFR 63.864(j).

        i. For the purposes of determining the number of monitoring exceedances in paragraph (b), no more than one exceedance will be attributed in any given 24-hour period.

    (9VAC5-80-110 and 40 CFR 63.864(e)(13), 40 CFR 63.864(k)(1)(vi)), 40 CFR 63.864(k)(2)(viii) and Condition 85 of the 2/25/08 Permit Document)

382. **MACT Subpart MM – (Recovery Furnace Smelt Dissolving Tanks - REC002, REC003) and REC011) – Monitoring Requirements** - The permittee shall comply with the following monitoring requirements specified in 40 CFR 63.864 for the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003) and the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011):

    a. For an existing smelt dissolving tank equipped with a wet scrubber, corrective action shall be implemented when any three hour average value operating parameter is outside the range of parameter values established in 40 CFR 63.864(j).

        i. Owners or operators of all affected sources or process units are in violation of the standards of 40 CFR 63.862 when six or more 3-hour average parameter values within any six month reporting period are outside the range of values established in 40 CFR 63.864(j).

        ii. For the purposes of determining the number of nonopacity exceedances, no more than one exceedance will be attributed in any given 24-hour period.

    (9VAC5-80-110, 40 CFR 63.864(k) and Condition 85 of the 2/25/08 Permit Document)

383. **MACT Subpart MM – (Recovery Furnace Smelt Dissolving Tanks - REC002, REC003 and REC011) – Monitoring Requirements** - Effective October 11, 2019, the permittee

shall comply with the following monitoring requirements specified in 40 CFR 63.864 for the No. 1 Recovery Furnace Smelt Dissolving Tanks (REC002 & REC003) and the No. 2 Recovery Furnace Smelt Dissolving Tank (REC011):

a. For an existing smelt dissolving tank equipped with a wet scrubber, corrective action shall be implemented when any 3-hour average parameter value is below the minimum operating limit established in 40 CFR 63.864(j), with the exception of pressure drop during periods of startup and shutdown.

   i. Owners or operators of all affected sources or process units are in violation of the standards of 40 CFR 63.862 when six or more 3-hour average parameter values within any 6-month reporting period are below the minimum operating limits established in 40 CFR 63.864(j), with the exception of pressure drop during periods of startup and shutdown.

   ii. For the purpose of determining the number of nonopacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period.

(9VAC5-80-110, 40 CFR 63.863(c) and 40 CFR 63.864(k))

Performance Test Requirements and Test Methods

384. **MACT Subpart MM – (Recovery Furnace – REC001) – Testing** – In accordance with alternative monitoring approved by USEPA, the permittee shall conduct annual performance tests for particulate matter from the No. 1 Recovery Furnace (REC001) to demonstrate compliance with 40 CFR 63.862(a).
(9VAC5-80-110, 40 CFR 63.864(e) and Condition 85 of the 2/25/08 Permit Document)

385. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – REC002, REC003, REC010, REC011, REC045 & REC047) – Testing** – The owner or operator of each affected source or process unit subject to the requirements of 40 CFR Part 63 Subpart MM shall conduct an initial performance test and periodic performance tests using the procedures listed in 40 CFR 63.7 and 40 CFR 63.865(b); and shall test as follows:

   a. The first of the five-year periodic performance tests must be conducted by October 13, 2020; and thereafter within 5 years following the previous performance test.

      i. Performance tests shall be conducted based on representative performance (i.e. performance based on normal operating conditions) of the affected source for the period being tested.

      ii. The permittee must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation.

iii. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests.

b. Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR Part 63 Subpart MM, the permittee shall submit the results of the performance test following the procedure specified in 40 CFR 63.867(d)(1)(i) or (d)(1)(ii).

c. The performance test data referenced in "b" above shall also be submitted to the attention of the Air Compliance Manager, Blue Ridge Regional Office.

(9VAC5-80-110, 40 CFR 63.863(c), 40 CFR 63.865 and 40 CFR 63.867(d))

Recordkeeping Requirements

386. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – Recordkeeping** – The permittee shall maintain the following records which includes, but is not limited to the following:

a. Records of any occurrence when corrective action is required under 40 CFR 63.864(k)(1) and when a violation is noted under 40 CFR 63.864(k)(2).

b. In addition to the general records required by 40 CFR 63.10(b)(2)(iii) and (vi) through (xiv), the permittee shall maintain records of the information in 40 CFR 63.866(c)(1) through (c)(8).

(9VAC5-80-110, 40 CFR 63.866 (b) and (c) and Condition 85 of the 2/25/08 Permit Document)

387. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – Recordkeeping** – In the event that an affected unit fails to meet an applicable standard, including any emission limit in 40 CFR 63.862 or any opacity or CPMS operating limit in 40 CFR 63.864, record the number of failures. For each failure, the permittee shall record the date, start time and duration of each failure.

a. For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment and the information specified in 40 CFR 63.866(d)(2) and (d)(3).

(9VAC5-80-110, 40 CFR 63.866(d) and Condition 85 of the 2/25/08 Permit Document)

Notifications and Reporting Requirements

388. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – Notifications –** The permittee shall submit the applicable notifications from 40 CFR Part 63 Subpart A, as specified in Table 1 to Subpart MM of Part 63.
(9VAC5-80-110, 40 CFR 63.867(a) and Condition 85 of the 2/25/08 Permit Document)

389. **MACT Subpart MM – (Recovery Furnaces, Smelt Dissolving Tanks and Lime Kilns – REC001, REC002, REC003, REC010, REC011, REC045 & REC047) – Reporting –** The permittee shall submit semiannual excess emissions reports containing the information specified in 40 CFR 63.867(c)(1) through (c)(5).

    a. The permittee shall submit semiannual excess emission reports and summary reports following the procedures specified in 40 CFR 63.867(d)(2) as specified in 40 CFR 63.10(e)(3)(v) and as follows:

        i. Beginning October 11, 2019, notifications required in 40 CFR 63.9(b) and 63.9(h) (including any information specified in 40 CFR 63.867(b)) and semiannual reports shall be submitted to the EPA via CEDRI. (CEDRI can be accessed through the EPA's CDX (http://cdx.epa.gov).) The notifications and reports shall be submitted in accordance with 40 CFR 63.867(d)(2); and if applicable, in accordance with 40 CFR 63.867(d)(3) or (d)(4).

    b. The notifications and semiannual excess emission reports referenced in "a" above shall also be submitted to the attention of the Air Compliance Manager, Blue Ridge Regional Office.

    (9VAC5-80-110, 40 CFR 63.867(c) and (d) and Condition 85 of the 2/25/08 Permit Document)

Process Equipment Requirements – Bleach Lines & No. 2 Chlorine Dioxide Plant (BPM001, BPM002, BPM012 & CLO004)

Limitations

390. **Process Equipment Requirements – (BPM001, BMP002, & BPM012) – Limitations -** The permittee shall employ elemental chlorine free (ECF) bleaching technologies for "A-Unit" and "B-Unit" Bleach Lines (BPM001 & BPM002) and for C-Line (BPM012). Bleaching technologies employing hypochlorite and/or elemental chlorine are prohibited.
(9VAC5-80-110 and Condition 8 of the 2/25/08 Permit Document)

391. **Process Equipment Requirements – (BPM001, BMP002 & BPM012) – Limitations -** Emissions from the operation of all bleaching processes combined, including all reactors, filtrate tanks and washer hoods, shall not exceed the limits specified below:

Carbon Monoxide	271.8 lbs/hr	992.1 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitation has not been exceeded.
(9VAC5-80-110 and Condition 62 of the 2/25/08 Permit Document)

392. **Process Equipment Requirements – (BPM012) – Limitations** - The C-Bleach Line (BPM012) shall process no more than 438,000 ODTP per year, calculated monthly as the sum of the previous consecutive 12 months' throughput.
(9VAC5-80-110 and Condition 36 of the 2/25/08 Permit Document)

393. **Process Equipment Requirements – (BPM012) – Limitations** - Emissions from the operation of the C-Bleach Line (BPM012) shall not exceed the limits specified below:

Volatile Organic Compounds	18.6 lbs/hr	67.9 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitations have not been exceeded. Compliance with these emission limits shall also be determined as stated in Condition 395.
(9VAC5-80-110 and Condition 61 of the 2/25/08 Permit Document)

394. **Process Equipment Requirements – (CLO004) – Limitations** - The production of chlorine dioxide from the No. 2 Chlorine Dioxide Plant (CLO004) shall not exceed 29,200 tons per year, calculated monthly as the sum of the previous consecutive 12 months' production.
(9VAC5-80-110 and Condition 30 of the 2/25/08 Permit Document)

Recordkeeping

395. **Process Equipment Requirements – (BPM001, BPM002, BPM012 & CLO004) – Recordkeeping** - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall, if requested, be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

a. "A-Unit" Bleach Line (BPM001) and "B-Unit" Bleach Line (BPM002), and C-Bleach Line (BPM012) monthly and annual throughput expressed in ODTP. Annual

throughput shall be calculated monthly as the sum of the previous consecutive 12 month period.

b. Monthly and annual estimated VOC emissions from the C-Bleach Line (BPM012), based on emission factors acceptable to VDEQ. Annual estimated emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

c. The yearly production of chlorine dioxide, calculated as the sum of each consecutive 12 month period.

d. Estimated annual carbon monoxide emissions from the bleaching process, as a whole, based on emission factors acceptable to VDEQ. Annual estimated emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9VAC5-80-110, Condition 40 of the 11/20/07 Permit Document and Condition 106 of the 2/25/08 Permit Document)

Testing

396. **Process Equipment Requirements – (BPM012) –Testing** – Upon request and proper notification by the DEQ, the permittee shall conduct additional tests for volatile organic compounds from the C-Bleach Line to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 94 of the 2/25/08 Permit Document)

MACT Subpart S – Pulp and Paper Industry – Standards for the Bleaching System – (BPM001, BPM002 & BPM012)

General Compliance Requirements

397. **MACT Subpart S - (BPM001, BPM002 and BPM012)** – General Compliance Requirements - The permittee shall comply with the applicable General Provisions as specified in Table 1 to Subpart S of Part 63.
(9VAC5-80-110, 40 CFR 63.440 and Condition 84 of the 2/25/08 Permit Document)

Bleaching System Standards

398. **MACT Subpart S - (BPM001, BPM002, BPM012) – Bleaching System Standards** – The equipment at each bleaching stage where chlorinated compounds are introduced shall be enclosed and vented into a closed-vent system and routed to a control device (scrubber) that meets the requirements specified in 40 CFR 63.445(c). The enclosures and closed-vent system shall meet the requirements specified in 40 CFR 63.450. The control device

(scrubber) used to reduce chlorinated HAP emissions (not including chloroform) from the equipment specified in 40 CFR 63.445(b) shall:

a. Reduce the total chlorinated HAP mass in the vent stream entering the control device by 99% or more by weight;

b. Achieve a treatment device outlet concentration of 10 parts per million or less by volume of total chlorinated HAP; or

c. Achieve a treatment device outlet mass emission rate of 0.001 kg of total chlorinated HAP mass per megagram (0.002 pounds per ton) of ODP.

Excess emissions are identified as periods when the scrubber flow, on a 3-hour rolling average basis, is below the flow established during the initial or most recent performance test that demonstrates compliance.
(9VAC5-80-110, 40 CFR 63.445(b) and (c) and Condition 84 of the 2/25/08 Permit Document)

Standards for Enclosures and Closed-vent Systems

399. **MACT Subpart S – (BPM001 & BPM002) -** Standards for Enclosures and Closed-vent Systems - Each enclosure and closed-vent system specified in 40 CFR 63.445(b) for capturing and transporting vent streams that contain HAP shall meet the requirements specified in 40 CFR 63.450(b)-(d).
(9VAC5-80-110, 40 CFR 63.450(a) and Condition 84 of the 2/25/08 Permit Document)

Monitoring Requirements

400. **MACT Subpart S - (BPM001 & BPM002) – Monitoring Requirements** – Each owner or operator subject to the standards specified in 40 CFR 63.445(b) or 40 CFR 63.450(d), shall install, calibrate, certify, operate and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS, as defined in 40 CFR 63.2) as specified in 40 CFR 63.453(b) through (m), except as allowed in 40 CFR 63.453(m). The CMS shall include a continuous recorder.
(9VAC5-80-110, 40 CFR 63.453(a) and Condition 84 of the 2/25/08 Permit Document)

401. **MACT Subpart S – (BPM001 and BPM002) – Monitoring Requirements -** A CMS shall be operated to measure the following parameters for each gas scrubber used to comply with the bleaching system requirements of 40 CFR 63.445(c):

a. The pH or the oxidation/reduction potential of the gas scrubber effluent;

b. The gas scrubber vent gas inlet flow rate or fan motor load (UESPA approved alternative); and

c. The gas scrubber liquid influent flow rate.

The monitoring devices shall be installed in an accessible location and shall be maintained by the permittee such that they are in proper working order.
(9VAC5-80-110, 40 CFR 63.453(c) and Condition 84 of the 2/25/08 Permit Document)

402. **MACT Subpart S – (BPM001 and BPM002) – Monitoring Requirements** – Each enclosure and closed-vent system used to comply with 40 CFR 63.450(a) shall comply with the applicable requirements specified in 40 CFR 63.453(k)(1) through (k)(6) as follows:

a. For each enclosure opening, a visual inspection of the closure mechanism specified in 40 CFR 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.

b. Each closed-vent system required by 40 CFR 63.450(a) shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures and connections to covers for visible evidence of defects.

c. For positive pressure closed-vent system or portions of closed-vent systems, demonstrate no detectable leaks as specified in 40 CFR 63.450(c) measured initially and annually by the procedures in 40 CFR 63.457(d).

d. Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in 40 CFR 63.457(e).

e. The valve or closure mechanism specified in 40 CFR 63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

f. If an inspection required by 40 CFR 63.453(k)(1) through (k)(5) identifies visible defects in ductwork, piping, enclosures or connections to covers as required by 40 CFR 63.450 or if an instrument reading of 500 parts per million by volume or greater above background is measured or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable:

i. A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.

ii. The repair or corrective action shall be completed no later than 15 days after the problem is identified. Delay of repair or corrective action is allowed if the repair or correction action is technically infeasible without a process unit shutdown or if the owner or operator determines that the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair.

Repair of such equipment shall be completed by the end of the next process shutdown.

(9VAC5-80-110, 40 CFR 63.453(k) and Condition 84 of the 2/25/08 Permit Document)

403. **MACT Subpart S – (BPM001 and BPM002) – Monitoring Requirements –** Each owner or operator using a control device, technique or an alternative parameter other than those specified in 40 CFR 63.453(c) and (k) shall install a CMS and establish appropriate operating parameters to be monitored that demonstrate, to the Administrator's satisfaction, continuous compliance with the applicable control requirements.
(9VAC5-80-110, 40 CFR 63.453(m) and Condition 84 of the 2/25/08 Permit Document)

404. **MACT Subpart S – (BPM001 and BPM002) – Monitoring Requirements** – To establish or reestablish the value for each operating parameter required to be monitoring under 40 CFR 63.453(c) and (m) or to establish appropriate parameters for 40 CFR 63.453(m), each owner and operator shall use the procedures specified in 40 CFR 63.453(n)(1) through (n)(4).
(9VAC5-80-110, 40 CFR 63.453(n) and Condition 84 of the 2/25/08 Permit Document)

405. **MACT Subpart S – (BPM001 and BPM002) – Monitoring Requirements –** Each owner or operator of a control device subject to the monitoring provisions of 40 CFR 63.453 shall operate the control device in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under the applicable requirements of 40 CFR 63.453(a) through (n) and established under 40 CFR Subpart S. Except as provided in 40 CFR 63.443(e) or 40 CFR 63.446(g), operation of the control device below minimum operating parameter values or above maximum operating parameter values established under 40 CFR Subpart S or failure to perform procedures required by 40 CFR Subpart S shall constitute a violation of the applicable emission standard of 40 CFR Subpart S and be reported as a period of excess emissions.
(9VAC5-80-110, 40 CFR 63.453(o) and Condition 84 of the 2/25/08 Permit Document)

406. **MACT Subpart S – (BPM001, BPM002 and BPM012) – Monitoring Requirements –** At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution and control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but it not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source.
(9VAC5-80-110, 40 CFR 63.453(q) and Condition 84 of the 2/25/08 Permit Document)

Recordkeeping Requirements

407. **MACT Subpart S – (BPM001, BPM002 and BPM012) – Recordkeeping Requirements** – The permittee shall comply with the recordkeeping requirements of 40 CFR 63.10 as

shown in Table 1 to Subpart S and the applicable requirements in 40 CFR 63.454(b) through (g) for the monitoring parameters specified in 40 CFR 63.453.
(9VAC5-80-110, 40 CFR 63.454(a) and Condition 84 of the 2/25/08 Permit Document)

408. **MACT Subpart S –(BPM001 and BPM002) – Recordkeeping Requirements** – For each applicable enclosure opening, closed vent system and closed collection system, the permittee shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment and shall record the information specified in 40 CFR 63.454(b)(1) through (b)(12) which includes, but is not limited to:

    a. Results of negative pressure tests for enclosures.

    b. Results of leak detection tests.

    (9VAC5-80-110, 40 CFR 63.454(b) and Condition 84 of the 2/25/08 Permit Document)

409. **MACT Subpart S – (BPM001, BPM002 & BPM012) – Recordkeeping Requirements** – The permittee shall record the applicable CMS parameters specified in 40 CFR 63.453 and meet the requirements specified in 40 CFR 63.454(a) for any new affected process equipment or pulping process condensate stream that becomes subject to 40 CFR Part 63 Subpart S due to a process change or modification. These records shall include, but are not limited, to:

    a. Records of the "A-Unit" Bleach Line (BPM001) and "B-Unit" Bleach Line (BPM002) gas scrubber effluent oxidation/reduction potential.

    b. Records of the "A-Unit" Bleach Line (BPM001) and "B-Unit" Bleach Line (BPM002) gas scrubber fan motor load or gas inlet flow measurement per approval of USEPA.

    c. Records of the A-Unit Bleach Line (BPM001) and B-Unit Bleach Line (BPM002) scrubber liquid influent flow rate.

    d. Results of negative pressure tests for each enclosure opening of the A-Unit Bleach Line (BPM001) and B-Unit Bleach Line (BPM002).

    e. Performance test results documenting that the chlorinated Hazardous Air Pollutants emissions from the C-Bleach Line (BPM012) are 10 ppm or less.

    These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
    (9VAC5-80-110, 40 CFR 63.454(d) and Condition 84 of the 2/25/08 Permit Document)

410. **MACT Subpart S – (BPM001, BPM002 & BPM012) –Recordkeeping Requirements** – The permittee shall maintain records of malfunctions in accordance with the requirements of 40 CFR 63.454(g)(1)-(2).
(9VAC5-80-110, 40 CFR 63.454(g) and Condition 84 of the 2/25/08 Permit Document)

Reporting Requirements

411. **MACT Subpart S – (BPM001, BPM002 & BPM012) - Reporting Requirements** – The permittee shall comply with the reporting requirements of 40 CFR 63 Subpart A as specified in Table 1 to Subpart S of Part 63 and all the applicable requirements in 40 CFR 63.455. These requirements include, but are not limited to:

    a. Malfunction reporting requirements – If a malfunction occurred during the reporting period, the report must include the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operating during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.453(q), including actions taken to correct a malfunction.

    b. Performance test reporting – The permittee shall submit test reports as specified in 40 CFR 63.455(h)(1) through (h)(4).

    (9VAC5-80-110, 40 CFR 63.455 and Condition 84 of the 2/25/08 Permit Document)

Test Methods and Procedures

412. **MACT Subpart S – (BPM001, BPM002 & BPM012) - Test Methods and Procedures** - Initial and repeat performance tests are required for the emission sources specified in 40 CFR 63.457(a)(1) and (2), except for the emission sources controlled by a combustion device that is designed and operated as specified in 40 CFR 63.443(d)(3) or (4). The permittee shall:

    a. Conduct an initial performance test for all emissions sources subject to the limitations in 40 CFR 63.445.

    b. Conduct repeat performance tests at five-year intervals for all emission sources subject to the limitations in 40 CFR 63.445. The first of the 5-year repeat tests must be conducted by September 7, 2015 and thereafter within 60 months from the date of the previous performance test.

    (9VAC5-80-110, 40 CFR 63.457(a) and Condition 84 of the 2/25/08 Permit Document)

413. **MACT Subpart S – (BPM012) – Test Methods and Procedures** – Upon request by the DEQ, the permittee shall conduct performance tests to demonstrate that emissions from the

C Bleach Line (BPM012) contain 10 ppm or less of chlorinated Hazardous Air Pollutants. The tests shall be performed, and demonstrate compliance, within 60 days after notice by the Blue Ridge Regional Office, that the Department has reason to believe that the facility or a portion of the facility is not in compliance with the emission limits of this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. A copy of the test results shall be submitted to the Blue Ridge Regional Office within 45 days after test completion. (9VAC5-80-110 and Condition 84 of the 2/25/08 Permit Document)

414. **MACT Subpart S – (BPM001, BPM002 & BPM012) -Test Methods and Procedures** - For purposes of selecting vent sampling port locations and determining vent gas stream properties, required in 40 CFR 63.445, the permittee shall comply with the applicable procedures in 40 CFR 63.457(b)(1) through (b)(6).
(9VAC5-80-110, 40 CFR 63.457(b) and Condition 84 of the 2/25/08 Permit Document)

415. **MACT Subpart S – (BPM001 & BPM002) - Test Methods and Procedures** - Annually and upon request by the DEQ, the permittee shall conduct a negative pressure test for each opening of the total enclosure for the A-Unit Bleach Line (BPM001) and B-Unit Bleach Line (BPM002). The tests shall be performed, and demonstrate compliance, within 60 days after notice by the Blue Ridge Regional Office, that the Department has reason to believe that the facility or a portion of the facility is not in compliance with the requirements of this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. A copy of the test results shall be submitted to the Blue Ridge Regional Office within 45 days after the test. (9VAC5-80-110, 40 CFR 63.453(k) and Condition 84 of the 2/25/08 Permit Document)

416. **MACT Subpart S – (BPM001 & BPM002) - Test Methods and Procedures** - To demonstrate negative pressure at process equipment enclosure openings as specified in 40 CFR 63.450(b), the permittee shall use one of the following procedures:

    a. An anemometer to demonstrate flow into the enclosure opening;

    b. Measure the static pressure across the opening;

    c. Smoke tubes to demonstrate flow into the enclosure opening; or

    d. Any other industrial ventilation test method demonstrated to the Administrator's satisfaction.

    (9VAC5-80-110, 40 CFR 63.457(e) and Condition 84 of the 2/25/08 Permit Document)

417. **MACT Subpart S – (BPM001, BPM002 & BPM012) - Test Methods and Procedures** - The permittee shall conduct performance tests under such conditions as the Administrator specifies based on representative performance of the affected source for the period being

tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.
(9VAC5-80-110, 40 CFR 63.457(o) and Condition 84 of the 2/25/08 Permit Document)

Process Equipment Requirements – Paper Machines (PM1001 & PM2001)

Limitations

418. **Process Equipment Requirements – (PM1001) – Limitations** - The direct drying on the paper machine (PM1001) shall consume no more than 122,552 MMBtu per year of natural gas, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total natural gas heat input for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 24 of the 10/17/18 Permit Document)

419. **Process Equipment Requirements – (PM1001) – Limitations** - The paper machine (PM1001 through PM1004) shall process no more than 520,000 air-dried tons of finished product (ADTFP) per year calculated monthly as the sum of each consecutive 12-month period. ADTFP shall include paper recycled on the machine due to maintenance or process upsets. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 25 of the 10/17/18 Permit Document)

420. **Process Equipment Requirements – (PM1001) – Limitations** - Emissions from the paper machine (PM1001 through PM1004) shall not exceed the limits specified below:

Volatile Organic Compounds	0.236 lbs/ADTFP

(9VAC5-80-110 and Condition 39 of the 10/17/18 Permit Document)

421. **Process Equipment Requirements – (PM2001) – Limitations** - The No. 2 Paper Machine (PM2001) shall process no more than 730,000 ADFTP per year, calculated monthly as the sum of the previous consecutive 12 months' throughput.
(9VAC5-80-110 and Condition 33 of the 2/25/08 Permit Document)

422. **Process Equipment Requirements – (PM2001) – Limitations** - Emissions from the operation of the No. 2 Paper Machine (PM2001) shall not exceed the limits specified below:

Volatile Organic Compounds	42.0 lbs/hr	153.3 tons/yr

Annual emissions calculated monthly as the sum of the previous consecutive twelve month period.
(9VAC5-80-110 and Condition 53 of the 2/25/08 Permit Document)

423. **Process Equipment Requirements – (PM2001) – Limitations** - Visible emissions from the No. 2 Paper Machine (PM2001) shall not exceed 20 percent opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A), except for one six minute period in any one hour which shall not exceed 30 percent opacity. This condition applies at all times except during startup, shutdown and malfunction.
(9VAC5-80-110 and Condition 81 of the 2/25/08 Permit Document)

Monitoring

424. **Process Equipment Requirements – (PM2001) – Monitoring** - At least one time per calendar week an observation of the presence of visible emissions from the No. 2 Paper Machine (PM2001) vent exhausts shall be made. The presence of visible emissions shall require the permittee to:

a. take timely corrective action such that the No. 2 Paper Machine (PM2001) resumes operation with no visible emissions, or,

b. conduct a visible emission evaluation (VEE) on the No. 2 Paper Machine (PM2001) stack in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the stack are 20 percent opacity or less. If any of the observations exceed the opacity limitation of 20 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that No. 2 Paper Machine resumes operation within the 20 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the No. 2 Paper Machine (PM2001) has not been operated for any period during the entire week, it shall be noted in the log book.
(9VAC5-80-110 E & K)

Recordkeeping

425. **Process Equipment Requirements – (PM1001 and PM2001) – Recordkeeping -** The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall, if requested, be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

    a. Monthly and annual consumption of natural gas (in MMBtu) for the direct drying on the paper machine (PM1001). Annual consumption is calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

    b. Monthly and annual production (in ADTFP) for the paper machine (PM1001). Annual production is calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

    c. No. 2 Paper Machine (PM2001) annual production. Annual production shall be calculated monthly as the sum of the previous consecutive 12 month period.

    d. Observation logs as required by Condition 424.

    These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
    (9VAC5-80-110 and Condition 55(b) and (c) of the 10/17/18 Permit Document)

Testing

426. **Process Equipment Requirements – (PM2001) – Testing -** Upon request and proper notification by the DEQ, the permittee shall conduct additional performance tests for volatile organic compounds from the No. 2 Paper Machine to demonstrate compliance with the emission limits contained in this permit. The details of the tests shall be arranged with the Blue Ridge Regional Office.
    (9VAC5-80-110 and Condition 94 of the 2/25/08 Permit Document)

427. **Process Equipment Requirements – (PM2001) – Testing –** Upon request and proper notification by the DEQ, the permittee shall conduct additional visible emission evaluations from the No 2 Paper Machine to demonstrate compliance with the visible emission limits contained in this permit. The details of the test shall be arranged with the Blue Ridge Regional Office.
    (9VAC5-80-110 and Condition 102 of the 2/25/08 Permit)

MACT Subpart DDDDD – Industrial, Commercial, and Institutional Boilers and Process Heaters (PM1001a)

Work Practice Standards

428. **MACT Subpart DDDDD – (PM1001a) - Limitations -** The permittee shall comply with the work practice standards in Table 3 to Subpart DDDDD of Part 63.

    a. For process heaters with a heat input capacity greater than 5 million Btu per hour and less than 10 million Btu per hour, the permittee shall complete a tune-up every 2 years as specified in 40 CFR 63.7540.

    (9VAC5-80-110, 40 CFR 63.7500(a) and (e) and 40 CFR 63.7505(a))

429. **MACT Subpart DDDDD – (PM1001a) – Limitations -** The permittee shall at all times, operate and maintain any affected source (as defined in 40 CFR 63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
    (9VAC5-80-110 and 40 CFR 63.7500(a))

General Compliance Requirements

430. **MACT Subpart DDDDD – (PM1001a) - General Compliance Requirements** – The permittee shall comply with the applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters 40 CFR 63, Subpart DDDDD as listed in Conditions 428 through 436 by the applicable compliance date specified in 40 CFR 63.7495(a).
    (9VAC5-80-110 and 40 CFR 63.7495)

Initial Compliance Requirements

431. **MACT Subpart DDDDD – (PM1001a) – Initial Compliance Requirements -** For new affected sources (as defined in 40 CFR 63.7490), the permittee shall demonstrate initial compliance with the work practice standards in Table 3 to Subpart DDDDD of Part 63 within the biennial schedule as specified in 40 CFR 63.7515(d) following the initial compliance date specified in 40 CFR 63.7495(a). Thereafter, the permittee shall complete the biennial tune-up as specified in 40 CFR 63.7515(d).
    (9VAC5-80-110 and 40 CFR 63.7510(g))

Continuous Compliance Requirements

432. **MACT Subpart DDDDD – (PM1001a) – Continuous Compliance Requirements -** The permittee shall conduct a biennial tune-up of the process heater to demonstrate continuous compliance as specified in 40 CFR 63.7540(a)(10)(i) –(vi).

    a. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

    (9VAC5-80-110 and 40 CFR 63.7540(a))

Notifications, Reporting and Recordkeeping

433. **MACT Subpart DDDDD – (PM1001a) – Notifications -** The permittee shall submit the following notifications:

    a. All of the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (6) and 63.9(b) through (h) that apply to the permitted facility by the dates specified.

    b. As specified in 40 CFR 63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, the permittee shall submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.

    (9VAC5-80-110 and 40 CFR 63.7545 (a) and (b))

434. **MACT Subpart DDDDD – (PM1001a) – Reporting** – The permittee shall submit the following reports:

    a. Each report in Table 9 to Subpart DDDDD of Part 63 that applies to the permitted facility. The permittee must submit each report, according to 40 CFR 63.7550(h), by the date in Table 9 to Subpart DDDDD of Part 63 and according to the requirements in 40 CFR 63.7550(b)(1)-(4).

        i. For units that are subject only to a requirement to conduct a biennial tune-up according to 40 CFR 63.7540(a)(11), and not subject to emission limits or operating limits specified in Table 4 to Subpart DDDDD of Part 63, the permittee shall submit only a biennial compliance report as specified in 40 CFR 63.7550(b)(1)-(4), instead of a semi-annual compliance report.

        ii. The reports referenced above shall also be submitted to the attention of the Air Compliance Manager, Blue Ridge Regional Office.

    (9VAC5-80-110 and 40 CFR 63.7550(a), (b) and (h))

435. **MACT Subpart DDDDD – (PM1001a) – Recordkeeping -** The permittee shall keep records according to 40 CFR 63.7555(a)(1). These records shall include:

    a. A copy of each notification and report that you submitted to comply with 40 CFR 63 Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

    (9VAC5-80-110 and 40 CFR 63.7555(a))

436. **MACT Subpart DDDDD – (PM1001a) – Recordkeeping -** The permittee's records shall be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).

    a. As specified in §63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

    b. The permittee must keep each record on site, or they must be accessible from on site, for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). The permittee can keep the records off site for the remaining 3 years.

    (9VAC 5-80-110 and 40 CFR 63.7560(a), (b) and (c))

Process Equipment Requirements - Starch Storage Silo and Slurry System (STK001a)

Limitations

437. **Process Equipment Requirements - Starch Silo and Slurry System – Limitations –** Particulate emissions from the Starch Silo (STK001a) shall be controlled by a fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when material is being transferred.
(9VAC5-80-110 and Condition 1 of the 7/17/17 Permit Document)

438. **Process Equipment Requirements - Starch Silo and Slurry System – Limitations -** The throughput of starch through the starch silo (STK001a) shall not exceed 142,350 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 6 of the 7/17/17 Permit Document)

439. **Process Equipment Requirements - Starch Silo and Slurry System – Limitations -** Emissions from the starch silo fabric filter shall not exceed the limits specified below:

Particulate Matter (PM)	0.005 gr/dscf	0.47 tons/yr
PM-10	0.005 gr/dscf	0.47 tons/yr
PM 2.5	0.005 gr/dscf	0.47 tons/yr

(9VAC5-80-1180 and Condition 7 of the 7/17/17 Permit Document)

440. **Process Equipment Requirements - Starch Silo and Slurry System** - Visible emissions from the fabric filter shall not exceed 5 percent (5%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9VAC5-80-110 and Condition 8 of the 7/17/17 Permit Document)

Monitoring

441. **Process Equipment Requirements - Starch Silo and Slurry System – Monitoring** - The fabric filter shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filter is operating.
(9VAC5-80-110 and Condition 3 of the 7/17/17 Permit Document)

442. **Process Equipment Requirements - Starch Silo and Slurry System – Monitoring** - To ensure good performance, the monitoring device used to continuously measure the differential pressure drop across the fabric filter shall be observed by the permittee with a frequency of not less than once per day. The permittee shall keep a log of the observations from the monitoring device.
(9VAC5-80-110 and Condition 4 of the 7/17/17 Permit Document)

443. **Process Equipment Requirements - Starch Silo and Slurry System – Monitoring -** At least one time per calendar week an observation of the presence of visible emissions from the fabric filter exhaust shall be made. The presence of visible emissions shall require the permittee to:

a. take timely corrective action such that the fabric filter resumes operation with no visible emissions, or,

b. conduct a visible emission evaluation (VEE) on the fabric filter exhaust in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6)

minutes, to assure visible emissions from the exhaust are 5 percent opacity or less. If any of the observations exceed the opacity limitation of 5 percent, the observation period shall continue until a total of sixty (60) minutes of observations have been completed. Timely corrective action shall be taken, if necessary, such that the fabric filter resumes operation within the 5 percent opacity limit.

c. If visible emissions observations conducted for a particular source during twelve consecutive weeks show no visible emissions, the permittee with DEQ concurrence, may reduce the monitoring frequency to once per calendar month for that source. Any time the monthly visible emissions inspections show observable opacity, or when requested by DEQ, the monitoring frequency shall be increased to once per week.

The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action and the name of the observer. If the starch silo has not been operated for any period during the entire week, it shall be noted in the log book.
(9VAC5-80-110 E & K)

Recordkeeping

444. **Process Equipment Requirements - Starch Silo and Slurry System – Recordkeeping -** The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

a. Annual throughput of starch through the starch silo (STK001a), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recent competed calendar month to the individual monthly totals for the preceding 11 months.

b. Operation and control device monitoring records for the fabric filter as required in Condition 442.

c. Results of all stack tests, visible emission evaluation and performance evaluations.

d. Scheduled and unscheduled maintenance and operator training.

e. Observation logs as required by Condition 443.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9VAC5-80-110 and Condition 9 of the 7/17/17 Permit Document)

Miscellaneous Process Equipment Requirements

Limitations

445. **Miscellaneous Process Equipment Requirements – Limitations** - Particulate emissions from haul road traffic shall be controlled by maintaining the surface on 1.9 miles of haul road paved for particulate netting, per the 1995 application.
(9VAC5-80-110 and Condition 17 of the 2/25/08 Permit Document)

446. **Miscellaneous Process Equipment Requirements – Limitations** - Emissions from the 1.9 miles of haul road paved in accordance with Condition 445 shall not exceed the limits specified below:

Particulate Matter	42.4 tons/yr
PM-10	8.3 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitations have not been exceeded.
(9VAC5-80-110 and Condition 63 of the 2/25/08 Permit Document)

447. **Miscellaneous Process Equipment Requirements – Limitations** - Particulate emissions from woodyard road traffic shall be controlled by maintaining the surface on 1.0 miles of woodyard road paved for particulate netting, per the 1995 application.
(9VAC5-80-110 and Condition 18 of the 2/25/08 Permit Document)

448. **Miscellaneous Process Equipment Requirements – Limitations** - Emissions from the 1.0 miles of woodyard road paved in accordance with Condition 447 shall not exceed the limits specified below:

Particulate Matter	191.3 tons/yr
PM-10	43.7 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits and emission factors supplied by the permittee. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits unless the permittee can demonstrate to the satisfaction of the Board that the above emission limitations have not been exceeded.
(9VAC5-80-110 and Condition 64 of the 2/25/08 Permit Document)

Monitoring

449. **Miscellaneous Process Equipment Requirements – Monitoring** – The permittee shall measure the traffic on the haul roads and woodyard roads or otherwise devise an estimate of such traffic, based on levels of production, acceptable to VDEQ.
(9VAC5-80-110 and 9VAC5-80-1605)

Recordkeeping

450. **Miscellaneous Process Equipment Requirements – Recordkeeping -** The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall, if requested, be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

a. An annual record, or equivalent estimate, of the traffic on the woodyard and haul roads. Annual traffic shall be calculated monthly as the sum of the previous consecutive 12 month period.

b. Annual estimates of particulate emissions from haul roads and woodyard roads, based on emission factors acceptable to VDEQ. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9VAC5-80-110 and 9VAC5-80-1605)

General Compliance Assurance Monitoring (CAM) Provisions

451. **Compliance Assurance Monitoring (CAM) -** Each monitoring approach shall be designed and implemented in compliance with 40 CFR 64.3(b) or (d). If a monitoring approach uses a monitoring device, the device shall be operated according to manufacturer's specifications, unless other methods are approved, and in compliance with 40 CFR 64.3(b) or (d). The approved CAM Plan shall include, at a minimum, the following information:

a. Indicator;
b. Measurement Approach;
c. Indicator Range or Condition(s) for Range Development; and
d. The following performance criteria:
    i. Data Representativeness;
    ii. Verification of Operational Status;
    iii. QA/QC Practices and Criteria;
    iv. Monitoring Frequency;
    v. Data Collection Procedures; and
    vi. Averaging Period

Changes to a CAM Plan pertaining to the information in this condition may require a permit modification.
(9VAC5-80-110 and 40 CFR 64.6(c))

452. **Compliance Assurance Monitoring (CAM) -** The permittee shall conduct the monitoring and fulfill the other obligations specified in 40 CFR 64.7 through 40 CFR 64.9.
(9VAC5-80-110 and 40 CFR 64.6(c))

453. **Compliance Assurance Monitoring (CAM) -** At all times, the permittee shall maintain the monitoring equipment, including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
(9VAC5-80-110 and 40 CFR 64.7(b))

454. **Compliance Assurance Monitoring (CAM) -** Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the PSEU is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of compliance assurance monitoring, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by inadequate maintenance or improper operation are not malfunctions.
(9VAC5-80-110 and 40 CFR 64.7(c))

455. **Compliance Assurance Monitoring (CAM) -** Upon detecting an excursion or exceedance, the permittee shall restore operation of the PSEU (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup and shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator, designated condition, or below the applicable emission limitation or standard, as applicable.
(9VAC5-80-110 and 40 CFR 64.7(d)(1))

456. **Compliance Assurance Monitoring (CAM) -** Determination that acceptable procedures were used in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation

and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
(9VAC5-80-110 and 40 CFR 64.7(d)(2))

457. **Compliance Assurance Monitoring (CAM)** - If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Blue Ridge Regional Office and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
(9VAC5-80-110 and 40 CFR 64.7(e))

458. **Compliance Assurance Monitoring (CAM)** - For each PSEU, the Quality Improvement Plan (QIP) threshold shall be as shown in the following table:

PSEU ID	Condition Number	Pollutant	QIP Triggering Threshold
PSEU 1	78	Sulfuric acid	3 excursions in a semi-annual period
PSEU 2	79	PM10	6 excursions in a semi-annual period
PSEU 3	80	NO_X	3 excursions in a semi-annual period
PSEU 4	118	PM10	5% of the operating time*
PSEU 5	256	SO_2	3 excursions in a semi-annual period
PSEU 6	257	TRS	3 excursions in a semi-annual period
PSEU 7	346	PM10	3 excursions in a semi-annual period
PSEU 8	347	PM10	5% of the operating time*
PSUE 9	348	PM10 & SO_2	3 excursions in a semi-annual period
PSUE 10	349	PM10	5% of the operating time*
PSUE 11	350	PM10 & SO_2	3 excursions in a semi-annual period
PSEU 12	351	PM10	3 excursions in a semi-annual period
PSUE 13	352	PM10	5% of the operating time*

*during a semi-annual period

For any PSEU, if the number of exceedances or excursions exceeds its threshold in the above table, the permittee shall develop, implement and maintain a Quality Improvement Plan (QIP) in accordance with 40 CFR 64.8. If a QIP is required, the permittee shall have it available for inspection. The QIP initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the permittee shall modify the plan to include procedures for conducting one or more of the following, as appropriate:

a. Improved preventative maintenance practices;

b. Process operation changes;

c. Appropriate improvements to control methods;

d. Other steps appropriate to correct control performance; and

e. More frequent or improved monitoring.
(9VAC5-80-110 E and 40 CFR 64.8(a) and (b))

459. **Compliance Assurance Monitoring (CAM) Recordkeeping** - The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written QIP required pursuant to 40 CFR 64.8 and any activities undertaken to implement a quality improvement plant (QIP), and other supporting information required to be maintained under 40 CFR Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
(9VAC5-80-110 and 40 CFR 64.9(b))

460. **Compliance Assurance Monitoring (CAM) Reporting** - The permittee shall submit CAM reports for each PSEU as part of the Title V semi-annual monitoring reports required by General Condition 486 of this permit to the Blue Ridge Regional Office. Such reports shall include at a minimum:

a. Identification of the PSEU for which the report is made;

b. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

c. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

d. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

(9VAC5-80-110 F and 40 CFR 64.9(a))

Facility Wide Conditions

Limitations

461. **Facility Wide Conditions – Limitations - PSD Netting Compliance** - No project shall result in a major modification as defined in 9VAC5-80-1615 without receiving a permit pursuant to 9 VAC 5-80 Article 8. For projects which rely on excluded emissions (subsection c of the definition of "projected actual emissions" in 9VAC5-80-1615) to be exempt from review under 9VAC5-80 Article 8, any increase in emissions without sufficient documentation shall be attributed to the project. If annual production after the project (12 month rolling total) exceeds the projected production rate for any processing area, the permittee shall notify the Blue Ridge Regional Office within fifteen (15) days after the event. This notification requirement is effective for the projection period as prescribed in the definition of "projected actual emissions" located in 9VAC5-80-1615. Nothing in this condition shall restrict when the Board may find the permittee in violation of 9VAC5-80-1625 A.
(9VAC5-80-110 and Condition 43 of the 10/17/18 Permit Document)

462. **Facility Wide Conditions – Limitations - Maintenance/Operating Procedures** - At all times, including periods of start-up, shutdown, soot blowing, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

    The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices, process equipment and boiler equipment which affect such emissions:

    a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

    b. Maintain an inventory of spare parts.

    c. Develop an inspection schedule, monthly at a minimum, to insure operational integrity of all emission control equipment associated with the boilers and maintain records of inspection results.

    d. Have available written operating procedures for the equipment and all emission control equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

    e. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of the trainees, the date and nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9VAC5-80-110 Condition 44 of the 11/20/07 Permit Document, Condition 113 of the 2/25/08 Permit Document, Condition 11 of 2/23/09 Permit Document, Condition 14 of the 6/22/12 Permit Document, Condition 19 of the 10/14/14 Permit Document, Condition 13 of the 11/7/14 Permit Document, Condition 14 of the 7/17/17 Permit Document and Condition 60 of the 10/17/18 Permit Document)

463. **Facility Wide Conditions – Limitations - Stack Height** – Facility stack height extensions to 65 meters (213 feet) to be completed prior to start-up of the No. 2 Recovery Furnace. Stack increases shall include exhaust gases from the following affected sources:

Kraft Mill
No. 1 Lime Kiln
Lime Calciner
No. 20 Slaker
No. 12 Slaker
No. 16 Slaker
New Bleach Room Scrubber

This requirement to raise the stacks shall not apply to any process that is not going to be operated or to any emission points if their emissions are eliminated. This includes eliminating slaker emissions by use of a cold water spray condenser or equivalent on Slaker Nos. 12 and/or 16.
(9VAC5-80-110 and Condition 14 of the 11/20/07 Permit Document)

464. **Facility Wide Conditions (PWR006, PWR009, PWR010, REC001, REC002, REC003) – Limitations - Relationship to Other Requirements** - Except to the extent that conditions in the February 23, 2009 and May 4, 2011 permits may be more stringent, these two referenced permits do not supersede or replace any other valid permit, regulatory or statutory requirement. Furthermore, this approval to operate shall not relieve WestRock Virginia, LLC of the responsibility to comply with all other local, state and federal regulations, including permit regulations.
(9VAC5-80-110, Condition 24 of the 2/23/09 Permit Document and Condition 10 of the 5/4/11 Permit Document)

465. **Facility Wide Conditions (PWR006, PWR009, PWR010, REC001, REC002, REC003) – Limitations – Federal Enforceability** - Once the February 23, 2009 and May 4, 2011 permits are approved by the U.S. Environmental Protection Agency into the Commonwealth of Virginia State Implementation Plan, the permit is enforceable by EPA and citizens under the federal Clean Air Act.
(9VAC5-80-110, Condition 25 of the 2/23/09 Permit Document and Condition 11 of the 5/4/11 Permit Document

466. **Facility Wide Conditions (PWR006, PWR009, PWR010, REC001, REC002, REC003) – Limitations - Permit Modification -** The Board may revise (modify, rewrite, change or amend) or repeal the February 23, 2009 and May 4, 2011 permits with the consent of WestRock Virginia, LLC, for good cause shown by WestRock Virginia, LLC or on its own motion provided approval of the revision or repeal is accomplished in accordance with Regulations of the Board and the Administrative Process Act (§ 2.2-4000 et seq.). Such revision or repeal shall not be effective until the revision or repeal is approved by the U. S. Environmental Protection Agency following the requirements of 40 CFR Part 51 (Requirements for Preparation, Adoption, and Submittal of Implementation Plans). (VAC5-80-110, Condition 26 of the 2/23/09 Permit Document and Condition 12 of the 5/4/11 Permit Document)

467. **Facility Wide Conditions (PWR006, PWR009, PWR010, REC001, REC002, REC003) – Limitations - Failure to Comply -** Failure by WestRock Virginia, LLC to comply with any of the conditions of the February 23, 2009 and May 4, 2011 permits shall constitute a violation of a Permit of the Board. Failure to comply may result in a Notice of Violation and civil penalty. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of orders as appropriate by the Board as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.
(9VAC5-80-110, Condition 27 of the 2/23/09 Permit Document and Condition 13 of the 5/4/11 Permit Document)

Monitoring

468. **Facility Wide Conditions – Monitoring -** Upon request of VDEQ, the permittee shall conduct a weekly observation of other potential sources of visible emissions not specifically cited in this permit using a brief modified 40 CFR 60 Appendix A Method 22 evaluation (excludes condensed water vapor). If any visible emission is observed, the visible emission condition shall be addressed as soon as possible, such that no visible emissions are observable, and recorded or a 40 CFR 60 Appendix A Method 9 evaluation shall be performed to determine if the opacity source is in compliance with the conditions of this permit. The Method 9 evaluation shall be conducted for at least six (6) minutes. If any of these six (6) minute averages exceed the unit's opacity limitation, a visible emissions evaluation (VEE) shall be conducted on the emissions for at least 3 six minute periods (at least 18 minutes). The visible emission observations, VEE results, and corrective actions shall be recorded. If a source does not operate during a weekly period when daylight or weather would allow an acceptable visible observation, this shall be noted on the records of this monitoring activity. If visible emissions observations conducted for a particular source during twelve (12) consecutive weeks show no visible emissions, the permittee with VDEQ concurrence, may reduce the monitoring frequency to once per month for that source. Any time the monthly visible emissions inspection shows observable opacity, or when requested by VDEQ, the monitoring frequency shall be increased to once per week.
(9VAC5-80-110)

Recordkeeping

469. **Facility Wide Conditions – Recordkeeping -** The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Blue Ridge Regional Office. These records shall include, but are not limited to:

    a. Emission measurements or estimates of the monthly and annual plantwide emissions of particulate matter, PM-10, nitrogen oxides, sulfur dioxide, carbon monoxide, volatile organic compounds, and total reduced sulfur, using emission factors acceptable to VDEQ. Details of particular emission points not otherwise specified may be requested by VDEQ to clarify the estimation process. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12 month period.

    b. Continuous monitoring system calibrations and calibration checks.

    c. Records as required in accordance with 40 CFR §60.49b, §60.284, and §60.7.

    d. Records of operator training related to air pollution control equipment, monitoring devices, and process equipment which affects air emissions.

    e. Results of all stack tests, visible emission evaluations and performance evaluations.

    f. Written operating procedures related to air pollution control equipment, monitoring devices, and process equipment which affects air emissions.

    g. Records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.

    These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
    (9VAC5-80-110, Conditions 40 and 45 of the 11/20/07 Permit Document, Condition 106 of the 2/25/08 Permit Document, Condition 15 of the 6/22/12 Permit Document, Condition 20 of the 10/14/14 Permit Document, Condition 14 of the 11/7/14 Permit Document, Condition 15 of the 7/17/17 Permit Document and Condition 61 of the 10/17/18 Permit Document)

Testing

470. **Facility Wide Conditions – Testing -** The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and

providing a stack or duct that is free from cyclonic flow. Test ports shall be provided, when requested, at the appropriate locations or in accordance with the applicable performance specification (ref. 40 CFR Part 60, Appendix B. Safe sampling platforms and access shall be provided.
(9VAC5-80-110, Condition 13 of the 11/20/07 Permit Document, Condition 28 of the 2/25/08 Permit Document, Condition 9 of the 6/22/12 Permit Document, Condition 7 of the 11/7/14 Permit Document, Condition 5 of the 7/17/17 Permit Document and Condition 21 of the 10/17/18 Permit Document)

471. **Facility Wide Conditions – Testing -** A continuous opacity monitoring system may be used to satisfy the visible emission evaluation requirement in lieu of 40 CFR Part 60, Appendix A, Method 9. The reported test data shall include averages of all six minute continuous periods within the test period and within the duration of any mass emission performance tests being conducted. It is the responsibility of the permittee to demonstrate that the monitoring system has met the requirements of the applicable performance evaluation, that the monitoring system has been properly maintained and operated, and that the resulting data has not been altered in any way. If monitoring system data indicates compliance for a period during which Method 9 data indicates non-compliance, the Method 9 data shall be used to determine compliance with the visible emission limit.
(9VAC5-80-110 and Condition 92 of the 2/25/08 Permit Document)

472. **Facility Wide Conditions – Testing –** Unless there are conditions included in this permit that outline more specific requirements, performance evaluations of the continuous monitoring systems shall be conducted in accordance with 40 CFR Part 60, Appendix B, and shall take place during the performance tests under 9VAC5-50-30 or within 30 days thereafter. Two copies of the performance evaluations report shall be submitted to the Blue Ridge Regional Office within 45 days of the evaluation. The continuous monitoring systems shall be installed and operational prior to conducting initial performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation and calibration of the device. A 30 day notification, prior to the demonstration of continuous monitoring system's performance, and subsequent notifications shall be submitted to the Blue Ridge Regional Office.
(9VAC5-80-110 and Condition 93 of the 2/25/08 Permit Document)

473. **Facility Wide Conditions – Testing -** If testing to demonstrate compliance is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:
(9VAC5-80-110)

Pollutant	Test Method – The test method is subject to DEQ approval at the time of the test (except Method 9 – 40 CFR Part 60, Appendix A).
Various Pollutants	Method subject to DEQ approval at the time of the testing
Visible Emissions	EPA Method 9

Reporting/Notifications

474. **Facility Wide Conditions - Reporting -** Reports related to New Source Performance Standards (NSPS), Hazardous Air Pollutant Monitoring (MACT), or Continuous Emission or Opacity Monitoring Systems (CEMS/COMS) shall meet the applicable requirements of the applicable MACT, NSPS, or Virginia Regulation for the Control and Abatement of Air Pollution at the time of the report. Reporting periods shall be each calendar quarter and/or each calendar semi-annual period, as appropriate. A mixture of reporting periods is possible. At the time of issuance of this permit, (a) CEMS/COMS reports are required quarterly no later than 30 days after each calendar quarter ends, and (b) MACT reports are required semi-annually no later than 30 days after each calendar semi-annual period ends. Details of quarterly and semi-annual reports may change based on the applicable regulation and as arranged with the Blue Ridge Regional Office at the time of each report. If the facility submits a report on a quarterly basis, a separate semi-annual report is not required. Specific details of the reports are to be arranged with the Blue Ridge Regional Office. Each report shall be sent to the Virginia Department of Environmental Quality at the address below (or electronically as arranged with the Blue Ridge Regional Office) and copies of the reports, as applicable, shall be sent to the United States Environmental Protection Agency at the address below:

Virginia Department of Environmental Quality
Blue Ridge Regional Office
Attn: Air Compliance Manager
3019 Peters Creek Road
Roanoke, VA 24019

Air Protection Division (3AP00)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029
Attn: (As appropriate for EPA)
Coordinator for 40 CFR 63 Subpart S (Pulp Mill MACT)
Coordinator for 40 CFR 63 Subpart MM (Kraft Pulp Mill Recovery MACT)
Coordinator for 40 CFR 60 Subpart BB (Kraft Pulp Mill NSPS)
Coordinator for 40 CFR 60 Subpart Db (Industrial Boiler NSPS)
(9VAC5-80-110)

475. **Facility Wide Conditions - Notifications** - The permittee shall furnish notification to the Blue Ridge Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

    a. Identification of the specific process to be taken out of service, as well as its location, and registration number;

    b. The expected length of time that the air pollution control equipment will be out of service;

    c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;

    d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

    (9VAC5-80-110, 9VAC5-20-180, and Condition 105 of the 2/25/08 Permit Document)

476. **Facility Wide Conditions – Notifications** - The permittee shall furnish notification to the Blue Ridge Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Air Compliance Manager, Blue Ridge Regional Office
(9VAC5-80-110 and Condition 41 of the 11/20/07 Permit Document)

477. **Facility Wide Conditions – Reporting** - The permittee shall furnish written reports to the Blue Ridge Regional Office of excess emissions from any process monitored by a continuous emissions monitoring system (COMS/CEMS) on a quarterly basis, postmarked no later than the 30th day following the end of the calendar quarter. These reports shall include, but are not limited to the following information:

    a. The magnitude of excess emissions, any conversion factors used in the calculation of excess emissions, and the date and time of commencement and completion of each period of excess emissions;

    b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the process, the nature and cause of the malfunction (if known), the corrective action taken or preventative measures adopted;

c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and

d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in that report.

(9VAC5-80-110 and Condition 107 of the 2/25/08 Permit Document)

478. **Facility Wide Conditions – Reporting** - The permittee shall submit fuel quality, excess emission, continuous monitoring, compliance, performance, and other reports, as required in accordance with 40 CFR §60.49b, §60.284, §60.7, and §60.8 to the Blue Ridge Regional Office. If applicable, copies of reports required above shall be sent to USEPA at the address in Condition 465.
(9VAC5-80-110 and Condition 108 of the 2/25/08 Permit)

479. **Facility Wide Conditions – Reporting – Registration/Update** - Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact. The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.1-340 through 2.1-348 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9VAC5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.
(9VAC5-80-110 and Condition 116 of the 2/25/08 Permit Document)

Insignificant Emission Units

480. Insignificant Emission Units - The following emission units at the facility are identified in the application as insignificant emission units under 9VAC5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9VAC5-80-720B)	Rated Capacity (9VAC5-80-720C)
WYD001	Chip Storage	9VAC5-80-720B	PM10	
WYD002	Sawdust Storage	9VAC5-80-720B	PM10	
WYD007	Bark Storage	9VAC5-80-720B	PM10	
WYD008	Woodchip Conveyors	9VAC5-80-720B	PM10	
WYD009	Bark Conveyors	9VAC5-80-720B	PM10	

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9VAC5-80-720B)	Rated Capacity (9VAC5-80-720C)
WYD010	Chip Silos	9VAC5-80-720B	PM10	
WYD011	Purchased Chip Handling	9VAC5-80-720B	PM10	
UPM001	Digester Chip Conveyors	9VAC5-80-720B	PM10	
UPM041	Rejects and Reclaim System	9VAC5-80-720B	VOC/HAPs/TRS/H2S	
UPM043	Pulp Mill Additives	9VAC5-80-720B	HAPS	
UPM044	Unbleached Pulp Mill Hydrapulper	9VAC5-80-720B	VOC/HAPs/TRS/H2S	
BPM007	Bleach Room White Water System	9VAC5-80-720B	VOC/HAPs/TRS/H2S	
BPM008	Chlorine Handling System	9VAC5-80-720B	Chlorine	
BPM009	Peroxide Storage	9VAC5-80-720B	HAPS	
BPM010	Caustic System	9VAC5-80-720B	HAPS	
CLO004	Sulfuric Acid Storage	9VAC5-80-720B	HAPS	
CLO005	Chlorine Dioxide Storage	9VAC5-80-720B	HAPS	
CLO006	Chlorate Storage	9VAC5-80-720B	HAPS	
FPP001	Fiber Plant	9VAC5-80-720B	VOC/HAPs/TRS/H2S	
FPP002	Fiber Conveyors	9VAC5-80-720B	PM10	
FPP003	Fiber Plant Additives	9VAC5-80-720B	HAPS	
NCR001	Southside Coating Room	9VAC5-80-720B	HAPS	
OCR001	Northside Coating Room	9VAC5-80-720B	HAPS	
PM1004	No. 1 Paper Machine Additives	9VAC5-80-720B	HAPS	
PM1005	No. 1 Paper Machine Lube Reservoirs	9VAC5-80-720B	VOC	
PM1006	No. 1 Paper Machine White Water System	9VAC5-80-720B	HAPS	
PM2004	No. 2 Paper Machine Additives	9VAC5-80-720B	HAPS	
PM2005	No. 2 Paper Machine Lube Reservoirs	9VAC5-80-720B	VOC	
PM2006	No. 2 Paper Machine White Water System	9VAC5-80-720B	HAPS	
PM8004	No. 8 Paper Machine Additives	9VAC5-80-720B	HAPS	
PM8005	No. 8 Paper Machine Lube Reservoirs	9VAC5-80-720B	VOC	

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9VAC5-80-720B)	Rated Capacity (9VAC5-80-720C)
PM8006	No. 8 Paper Machine White Water System	9VAC5-80-720B	HAPS	
PPP001	Purchased Pulp Pulper	9VAC5-80-720B	VOC/HAPs	
PPP003	Purchased Pulp White Water System	9VAC5-80-720B	VOC/HAPs	
PWR008	Power House Fuel Oil Storage	9VAC5-80-720B	VOC	
PWR009	Flyash Handling System	9VAC5-80-720B	PM10	
PWR010	Power House Coal Handling System	9VAC5-80-720B	PM10	
PWR011	Woodwaste Handling	9VAC5-80-720B	PM10	
PWR012	Power House Lube Reservoirs	9VAC5-80-720B	VOC	
REC031	Green Liquor Storage	9VAC5-80-720B	VOC/HAPs/TRS/H2S	
REC033	No. 12 Slaker	9VAC5-80-720B	PM10/VOC/HAPs/TRS/H2S	
REC038	White Liquor Storage	9VAC5-80-720B	VOC/HAPs/TRS/H2S	
REC042	Cone Tank	9VAC5-80-720B	VOC/HAPs/TRS/H2S	
REC053	Lime Mud And Dregs Handling (Dry)	9VAC5-80-720B	PM10	
REC070	Recovery Fuel Oil Storage	9VAC5-80-720B	VOC	
REC071	Recovery Additives	9VAC5-80-720B	HAPS	
STK001	Starch Silos	9VAC5-80-720B	PM10	
STK002	Starch Kitchen	9VAC5-80-720B	HAPS	
WTP005	Final Clarifiers	9VAC5-80-720B	VOC/HAPs/TRS/H2S	
WTP006	Sludge Thickener	9VAC5-80-720B	VOC/HAPs/TRS/H2S	
WTP008	Slaked Lime Tank	9VAC5-80-720B	PM10/VOC/HAPs/TRS/H2S	
WTP009	Waste Treatment Plant Additives	9VAC5-80-720B	HAPS	
WTP010	Sewer Sumps	9VAC5-80-720B	VOC/HAPs/H2S/TRS	
WVC001	Research Activities	NA	NA	
WVC001	Parts Washers	9VAC5-80-720B	VOC	
WVC001	Paper Loading/Packaging	9VAC5-80-720B	PM10	
WVC006	Oil/Diesel Storage	9VAC5-80-720B	VOC	

These insignificant emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no

monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9VAC5-80-110.

Permit Shield & Inapplicable Requirements

481. **Permit Shield & Inapplicable Requirements** - Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
40 CFR 60 Subpart D, Db	NSPS for Boilers	Boilers 6, 9 & 10 are not subject to this regulation based on date of construction.
40 CFR 60 Subpart BB	NSPS for Pulp Mills	No. 1 Recovery Furnace and its smelt dissolving tanks, Digesters 1 – 10, A-Line Brownstock Washers, C-Line Brownstock Washers, Waste Heat Evaporator System, No 1, 2, 3 Multiple Effect Evaporators and No. 1 Lime Kiln are not subject to this regulation based on date of construction.
40 CFR 63 Subpart S	MACT for Pulp Mills	The chlorine dioxide plant is not included in the specific definition of an affected source for this regulation.
40 CFR 63 Subpart JJJJ	MACT for Paper and Other Web Coating	This MACT has been determined to not be applicable to this facility per 11-19-03 EPA interpretation from Michael S. Alushin to the American Forest & Paper Association, due to being on-line coating on paper making machines.

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.
(9VAC5-80-110 and 9VAC5-80-140)

General Conditions

482. **General Conditions - Federal Enforceability** - All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9VAC5-80-110)

483. **General Conditions - Permit Expiration –**

a. This permit has a fixed term of five years. The expiration date shall be the date five years from the effective date of this permit. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9VAC5-80-80, the right of the facility to operate shall be terminated upon permit expiration.

b. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.

c. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9VAC5 Chapter 80, until the Board takes final action on the application under 9VAC5-80-150.

d. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9VAC5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9VAC5 Chapter 80.

e. If an applicant submits a timely and complete application under section 9VAC5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9VAC5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.

f. The protection under subsections F 1 and F 5 (ii) of section 9VAC5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9VAC5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.

(9VAC5-80-80, 9VAC5-80-110, and 9VAC5-80-170)

484. **General Conditions - Recordkeeping and Reporting** - All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

a. The date, place as defined in the permit, and time of sampling or measurements.

b. The date(s) analyses were performed.

c. The company or entity that performed the analyses.

d. The analytical techniques or methods used.

e. The results of such analyses.

f. The operating conditions existing at the time of sampling or measurement.

(9VAC5-80-110)

485. **General Conditions - Recordkeeping and Reporting** - Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. (9VAC5-80-110)

486. **General Conditions - Recordkeeping and Reporting** - The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than March 1 and September 1 of each calendar year. This report must be signed by a responsible official, consistent with 9VAC5-80-80 G. (Note that much of the recordkeeping required by this permit also serves as required periodic monitoring to determine emissions compliance and therefore needs to be addressed in the periodic reports.) The reports shall include:

a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.

b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:

i. Exceedance of emissions limitations or operational restrictions;

ii. Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or Compliance Assurance Monitoring (CAM) which indicates an exceedance of emission limitations or operational restrictions; or,

iii. Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."

d. The report shall be sent to the following address:
VA DEQ, Blue Ridge Regional Office
Air Compliance Manager
3019 Peters Creek Road
Roanoke, VA 24019

(9VAC5-80-110 F)

487. **General Conditions - Annual Compliance Certification** - Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and to DEQ no later than March 1 each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9VAC5-80-80 G, and shall include:

a. The time period included in the certification. The time period to be addressed is January 1 to December 31.

b. The identification of each term or condition of the permit that is the basis of the certification.

c. The compliance status.

d. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.

e. Consistent with subsection 9VAC5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.

f. Such other facts as the permit may require to determine the compliance status of the source.

g. One copy of the annual compliance certification shall be submitted to EPA in electronic format only. The certification document should be sent to the following electronic mailing address:

R3_APD_Permits@epa.gov

(9VAC5-80-110)

488. **General Conditions - Permit Deviation Reporting -** The permittee shall notify the Air Compliance Manager, Blue Ridge Regional Office, within four (4) daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. Owners subject to the requirements of 9VAC5-40-50 C and 9VAC5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9VAC5-40-40 and 9VAC5-50-40. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition 477 of this permit.
(9VAC5-80-110 F.2)

489. **General Conditions - Failure/Malfunction Reporting -** In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, no later than four daytime business hours after the malfunction is discovered, notify the Blue Ridge Regional Office of such failure or malfunction and shall within 14 days provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9VAC5-40-50 C and 9VAC5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9VAC5-40-40 and 9VAC5-50-40. When the condition causing the failure or malfunction has been corrected and equipment is again in operation, the owner shall notify the Blue Ridge Regional Office.
(9VAC5-80-110, 9VAC5-20-180, Condition 41 of the 11/20/07 Permit Document, Condition 111 of the 2/25/08 Permit Document, Condition 16 of the 6/22/12 Permit Document, Condition 21 of the 10/14/14 Permit Document, Condition 15 of the 11/7/14 Permit Document, Condition 16 of the 7/17/17 Permit Document and Condition 62 of the 10/17/18 Permit Document)

490. **General Conditions - Failure/Malfunction Reporting -** The emission units that have continuous monitors subject to 9VAC5-40-50 C and 9VAC5-50-50 C are not subject to the 14 day written notification.
(9VAC5-20-180, 9VAC5-40-50 and 9VAC5-50-50)

491. **General Conditions - Failure/Malfunction Reporting -** The emission units subject to the reporting and the procedure requirements of 9VAC5-40-50 C and the procedures of 9VAC5-50-50 C are listed below:

    a. Boilers 6 & 9 (PWR006 & PWR009): sulfur dioxide, opacity

b. Boiler 11 (PWR011): nitrogen oxides and either carbon dioxide or oxygen

c. Lime Kiln No. 1 (REC045): total reduced sulfur and oxygen

d. Lime Kiln No. 2 (REC047): total reduced sulfur, oxygen and opacity

e. Recovery Furnace No. 1 (REC001): total reduced sulfur, oxygen

f. Recovery Furnace No. 2 (REC010): total reduced sulfur, oxygen and opacity

g. Boiler No. 1 (PWR014): carbon monoxide, nitrogen oxides, sulfur dioxide and either carbon dioxide or oxygen

(9VAC5-80-110, 9VAC5-20-180 C, 9VAC5-40-50 and 9VAC5-50-50)

492. **General Conditions - Failure/Malfunction Reporting -** Each owner required to install a continuous monitoring system (CMS) or monitoring device subject to 9VAC5-40-41 or 9VAC5-50-410 shall submit a written report of excess emissions (as defined in the applicable emission standard) and either a monitoring systems performance report or a summary report form, or both, to the board quarterly. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. All reports shall include the following information:

a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) or 9VAC5-40-41 B 6, any conversion factors used, and the date and time of commencement and completion of each period of excess emissions;

b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the source. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;

c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and

d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.

All malfunctions of emission units not subject to 9VAC5-40-50 C and 9VAC5-50-50 C require written reports within 14 days of the discovery of the malfunction. (9VAC5-80-110, 9VAC5-20-180 C, 9VAC5-40-50 and 9VAC5-50-50)

493. **General Conditions - Severability -** The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any

circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9VAC5-80-110)

494. **General Conditions - Duty to Comply** - The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9VAC5-80-110)

495. **General Conditions - Need to Halt or Reduce Activity not a Defense** - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9VAC5-80-110)

496. **General Conditions - Permit Modification** - A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9VAC5-80-50, 9VAC5-80-1100, 9VAC5-80-1605, or 9VAC5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.
(9VAC5-80-110, 9VAC5-80-190 and 9VAC5-80-260)

497. **General Conditions - Property Rights** - The permit does not convey any property rights of any sort, or any exclusive privilege.
(9VAC5-80-110)

498. **General Conditions - Duty to Submit Information** - The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
(9VAC5-80-110)

499. **General Conditions - Duty to Submit Information** - Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9VAC5-80-80 G.
(9VAC5-80-110)

500. **General Conditions - Duty to Pay Permit Fees** - The owner of any source for which a permit under 9VAC5-80-50 through 9VAC5-80-300 was issued shall pay permit fees consistent with the requirements of 9VAC5-80-310 through 9VAC5-80-350 (9VAC5-80-

110 H and 9VAC5-80-340 C) in addition to an annual permit maintenance fee consistent with the requirements of 9VAC5-80-2310 through 9VAC5-80-2350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department. The amount of the annual permit maintenance fee shall be the largest applicable base permit maintenance fee amount from Table 8-11A in 9VAC5-80-2340, adjusted annually by the change in the Consumer Price Index.
(9VAC5-80-110, 9VAC5-80-340 and 9VAC5-80-2340)

501. **General Conditions - Fugitive Dust Emission Standards -** During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

    a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;

    b. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;

    c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;

    d. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,

    e. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

    (9VAC5-80-110, 9VAC5-40-90, 9VAC5-50-90 and Condition 2 of the 7/17/17 Permit Document)

502. **General Conditions - Startup, Shutdown, and Malfunction -** At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is

not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
(9VAC5-80-110 and 9VAC5-50-20 E)

503. **General Conditions - Alternative Operating Scenarios** - Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9VAC5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9VAC5 Chapter 80, Article 1.
(9VAC5-80-110)

504. **General Conditions - Inspection and Entry Requirements** - The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

a. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.

b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.

c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.

d. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9VAC5-80-110, Condition 43 of the 11/20/07 Permit Document, Condition 110 of the 2/25/08 Permit Document, Condition 28 of the 2/23/09 Permit Document, Condition 14 of the May 4, 2011 Permit Document, Condition 13 of the 6/22/12 Permit Document, Condition 18 of the 10/14/14 Permit Document, Condition 12 of the 11/7/14 Permit Document, Condition 13 of the 7/17/17 Permit Document, Condition 59 of the 10/17/18 Permit Document)

505. **General Conditions - Reopening For Cause** - The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9VAC5-80-80 F.

a. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

b. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

c. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9VAC5-80-110 D.

(9VAC5-80-110)

506. **General Conditions - Permit Availability** - Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request. (9VAC5-80-110 and 9VAC5-80-150)

507. **General Conditions - Permit Availability** – The permittee shall keep a copy of the following permits on the premises of the facility to which it applies: November 20, 2007 PSD Permit, February 25, 2008 New Source Review (NSR) Permit, February 23, 2009 State Operating Permit (SOP), May 4, 2011 SOP, June 22, 2012 NSR Permit, October 14, 2014 NSR Permit, November 7, 2014 NSR Permit and February 24, 2017 NSR Permit. (9VAC5-80-110, Condition 48 of the 11/20/07 Permit Document, Condition 117 of the 2/25/08 Permit Document, Condition 30 of the 2/23/09 Permit Document, Condition 16 of the 5/4/11 Permit Document, Condition 19 of the 6/22/12 Permit Document, Condition 24 of the 10/14/14 Permit Document, Condition 18 of the 11/7/14 Permit Document and Condition 65 of the 10/17/18 Permit Document)

508. **General Conditions - Transfer of Permits** - No person shall transfer a permit from one location to another, unless authorized under 9VAC5-80-130, or from one piece of equipment to another.
(9VAC5-80-110 and 9VAC5-80-160)

509. **General Conditions - Transfer of Permits** - In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9VAC5-80-200. (9VAC5-80-110, 9VAC5-80-160, Condition 47 of the 11/20/07 Permit Document, Condition 115 of the 2/25/08 Permit Document, Condition 29 of the 2/23/09 Permit Document, Condition 15 of the 5/4/11 Permit Document, Condition 18 of the 6/22/12 Permit Document, Condition 23 of the 10/14/14 Permit Document, Condition 17 of the

11/7/14 Permit Document, Condition 18 of the 7/17/17 Permit Document and Condition 64 of the 10/17/18 Permit Document)

510. **General Conditions - Transfer of Permits -** In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9VAC5-80-200. (9VAC5-80-110 and 9VAC5-80-160)

511. **General Conditions - Permit Revocation or Termination for Cause -** A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects, or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9VAC5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.
(9VAC5-80-190 C and 9VAC5-80-260)

512. **General Conditions - Duty to Supplement or Correct Application** - Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit. (9VAC5-80-110 and 9VAC5-80-80 E)

513. **General Conditions - Stratospheric Ozone Protection -** If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F. (9VAC5-80-110 and 40 CFR Part 82)

514. **General Conditions - Asbestos Requirements -** The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150). (9VAC5-80-110 and 9VAC5-60-70)

515. **General Conditions - Accidental Release Prevention -** If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68. (9VAC5-80-110 and 40 CFR Part 68)

516. **General Conditions - Changes to Permits for Emissions Trading** - No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.
(9VAC5-80-110)

517. **General Conditions - Emissions Trading** - Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

    a. All terms and conditions required under 9VAC5-80-110, except subsection N, shall be included to determine compliance.

    b. The permit shield described in 9VAC5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.

    c. The owner shall meet all applicable requirements including the requirements of 9VAC5-80-50 through 9VAC5-80-300.

    (9VAC5-80-110)

518. **General Conditions – Emission Control Replacement** - Future applications for the replacement of any of the required pollution control equipment cited in February 23, 2009 State Operating Permit shall include a BART cost and impact analysis, as well as the standard BACT analysis, if required.
(9VAC5-80-110 and Condition 10 of the 2/23/09 Permit)

519. **General Conditions – Modeling** - Upon request by the DEQ, the permittee shall perform additional modeling to demonstrate compliance with 40 CFR 51, Subpart P or other federal requirements related to visibility impairment. The details of the modeling shall be arranged with the Air Permit Manager, Blue Ridge Regional Office and/or the Office of Air Data Analysis.
(9VAC5-80-110 and Condition 22 of the 2/23/09 Permit)

NO_X Budget Program, 9VAC5 Chapter 140

General Conditions

520. **NO_X Budget Program Requirements** – For NO_X Budget sources required to have a Title V operating permit approval, the NO_X budget portion of the Title V permit shall be administered in accordance with the permitting authority's Title V operating permits regulations. This section of the permit document represents the NO_X Budget Permit approval.

Each NO_X Budget permit approval shall contain all applicable NO_X Budget Program requirements and shall be a complete and segregable portion of the permit approval.

The NO_X Budget Permit approval will be administrated by the Board under the authority of 9VAC5-80-360 et seq., and 9VAC5-140-10 et seq.
(9VAC5-80-110, 9VAC5-140-200 and 9VAC5-140-40)

521. **NO_X Budget Program Requirements – Facility NO_X Budget Units** - A review of the air emission units included in this permit approval has determined that the equipment listed in Table 1 meets the definition of a "NO_X Budget Unit" as described in 9VAC5-140-40. Any source that includes one or more such units shall be a "NO_X Budget source."

Table 1. Facility NO_X Budget Units

ORIS Code	Unit ID	Unit Name and description	Maximum Heat Capacity (MMBtu/hr)	Maximum Generation Capacity (megawatts)
50900	001	PWRBL #6	550	NA
50900	004	PWRBL #9	807	NA
50900	005	PWRBL #10	330	NA
50900	001	PWRBL #11	425	NA

(9VAC5-80-110 and 9VAC5-140-40)

522. **NO_X Budget Program Requirements – Retired Unit Exemption** - The equipment in Table 2 has met the retired unit exemption requirements the NO_X Budget program as described in 9VAC5-140-50 B. 1. The retired unit exemption described in this condition shall become effective the day on which the unit is permanently retired. Within 30 days of permanent retirement, the NO_X authorized account representative shall submit a statement to DEQ and EPA detailing that the unit(s) is permanently retired and will comply with the requirements of 9VAC5-140-50 C, including, but not limited to:

a. A unit exempt from the NO_X Budget Program shall not emit any nitrogen oxides, starting on the date that the exemption takes effect; and

b. For a period of five years from the date the records are created, the owners and operators of a unit exempt under 9VAC5-140-50 shall retain at the source that includes the unit, records demonstrating that the unit is permanently retired. Owners and operators bear the burden of proof that the unit is permanently retired.

Table 2. NO_X Budget Retirement Exemption Units

ORIS Code	Unit ID	Unit Name and description
50900	002	PWRBL #7
50900	003	PWRBL #8

(9VAC5-80-110 and 9VAC5-140-50)

Monitoring

523. **NO_X Budget Program Requirements – Monitoring**

a. Owners and operators, and to extent applicable, the NO_X authorized account representative of a NO_X Budget unit shall comply with the monitoring requirements as provided in 9VAC5-140-700 et. seq. and in Subpart H of 40 CFR Part 75.

b. The owner or operator of each NO_X Budget unit shall meet the following requirements:

i. Install all monitoring systems required under this article for monitoring NO_X mass. This includes all systems required to monitor NO_X emission rate, NO_X concentration, heat input, and flow, in accordance with 40 CFR 75.71 and 40 CFR 75.72.

ii. Install all monitoring systems for monitoring heat input.

iii. Successfully complete all certification tests required under 9VAC5-140-710 and meet all other provisions of this article and 40 CFR Part 75 applicable to the monitoring systems under 9VAC5-140-700 B.1 and B.2.

iv. Record, and report data from the monitoring systems under 9VAC5-140-700 B.1 and B.2.

c. The owner or operator shall meet the requirements of 9VAC5-140-700 B.1, B.2 and B.3 on or before May 1, 2003 and shall record and report data on and after the following date, May 1, 2003.

d. The owner or operator of a NO_X Budget unit under 9VAC5-140-700 C. 2., C. 3., or C. 4. shall determine, record, and report NO_X mass emissions, heat input rate, and any other values required to determine NO_X mass emissions in accordance with 40 CFR 75.70(g), from the date and hour that the unit starts operating until the date and hour on which the continuous emission monitoring system, excepted monitoring system under Appendix D or E of 40 CFR Part 75, or excepted monitoring methodology under 40 CFR 75.19 is provisionally certified.

e.

i. No owner or operator of a NO_X Budget unit or a non-NO_X Budget unit monitored under 40 CFR 75.72(b)(2)(ii) shall use any alternative monitoring system, alternative reference method, or any other alternative for the required continuous emission monitoring system without having obtained prior written approval in accordance with 9VAC5-140-750.

ii. No owner or operator of a NO_X Budget unit or a non-NO_X Budget unit monitored under 40 CFR 75.72(b)(2)(ii) shall operate the unit so as to discharge, or allow to be discharged, NO_X emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of 9VAC5-140-700 and 40 CFR Part 75 except as provided in 40 CFR 75.74.

iii. No owner or operator of a NO_X Budget unit or a non-NO_X Budget unit monitored under 40 CFR 75.72(b)(2)(ii) shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO_X mass emissions discharged into the atmosphere, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed.

iv. No owner or operator of a NO_X Budget unit or a non-NO_X Budget unit monitored under 40 CFR 75.72(b)(2)(ii) shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved emission monitoring system under this article except for under the following circumstances:

(1) A retired unit exemption goes into effect;

(2) The owner or operator is monitoring emissions from the unit with another certified monitoring system that has been approved by the permitting authority; or

(3) The NO_X authorized account representative submits notification of the date of certification testing of a replacement monitoring system in accordance with 9VAC5-140-710 A. 2.

(9VAC5-80-110 and 9VAC5-140-700)

524. **NO_X Budget Program Requirements – Initial Certification and Recertification Procedures for Emission Monitoring Systems**

a. The owner or operator of a NO_X Budge unit shall comply with the following initial certification and recertification procedures:

Table 3. Certification and Recertification Procedures

Unit Type	Initial Certification and Recertification Procedures
NO_X Budget Unit	9VAC5-140-710 A.
NO_X Budget Unit Qualified for Low Mass Emission Monitoring (qualifies for LME monitoring methodology under 40 CFR 75.19)	9VAC5-140-710 A. 9VAC5-140-710 B.
NO_X Budget Unit Approved for Alternative Monitoring (unit qualifies under Subpart E of 40 CFR Part 75)	9VAC5-140-710 A. 9VAC5-140-710 C.

b. Whenever the owner or operator installs a monitoring system in order to meet the requirements of the NO_X Budget Program where no such emission monitoring system was previously installed, initial certification is required.

c. Whenever the owner or operator makes a replacement, modification, or change in a certified emission monitoring system that may significantly affect the ability of the system to accurately measure or record NO_X mass emissions or heat input rate or to meet the requirements of 40 CFR 75.21 or Appendix B to 40 CFR Part 75, the owner or operator shall recertify the emission monitoring system.

d. Whenever the owner or operator makes a replacement, modification or change to the flue gas handling system or the unit's operation that may significantly change the stack flow or concentration profile, the owner or operator shall recertify the continuous emissions monitoring system.

e. The NO_X authorized account representative shall submit to the permitting authority, the EPA Region III Office, and the Administrator a written notice of the dates of certification in accordance with 9VAC5-140-730.

(9VAC5-80-110 and 9VAC5-140-710)

525. **NO_X Budget Program Requirements - Initial Certification and Recertification Procedures for Emission Monitoring Systems -** The NO_X authorized account representative shall submit an application to the permitting authority within 45 days after completing all initial certification or recertification tests required under 9VAC5-140-710 including information required under Subpart H of 40 CFR Part 75. (9VAC5-80-110 and 9VAC5-140-740 C.)

Recordkeeping and Reporting

526. **NO_X Budget Program Requirements** – The NO_X authorized account representative shall follow the recordkeeping and reporting requirements as described in 9VAC5-140-100 E.1. and 40 CFR 75.73.
(9VAC5-80-110 and 9VAC5-140-740 A.)

527. **NO_X Budget Program Requirements - Recordkeeping Requirements** - Unless otherwise provided, the owners and operators of the NO_X Budget source and each NO_X Budget unit at the source shall keep on site at the source each of the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the permitting authority or the administrator.

    a. The account certificate of representation for the NO_X authorized account representative for the source and each NO_X Budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with 9VAC5-140-130; provided that the certificate and documents shall be retained on site at the source beyond such five-year period until such documents are superseded because of the submission of a new account certificate of representation changing the NO_X authorized account representative.

    b. All emissions monitoring information, in accordance with 9VAC5-140-700 et seq. of this part; provided that to the extent that 9VAC5-140-700 et seq. provides for a three-year period for recordkeeping, the three-year period shall apply.

    c. Copies of all reports, compliance certifications, and other submissions and all records made or required under the NO_X Budget Program.

    d. Copies of all documents used to complete a NO_X Budget permit application and any other submission under the NOx Budget Program or to demonstrate compliance with the requirements of the NO_X Budget Program.

    (9VAC5-80-110 and 9VAC5-140-60 C.1)

528. **NO_X Budget Program Requirements – Reporting Requirements** - The NO_X authorized account representative of a NO_X Budget source and each NO_X Budget unit at the source shall submit the reports and compliance certifications required under the NO_X Budget Program, including those under 9VAC5-140-700 et seq. and in Subpart H of 40 CFR Part 75.
(9VAC5-80-110, 9VAC5-140-60 C.2, and 9VAC5-140-700)

529. **NO_X Budget Program Requirements - Reporting Requirements** - The owner or operator of a unit shall comply with requirements of 40 CFR 75.62 (Monitoring plan submittals), except that the monitoring plan is only required to include the information required by Subpart H of 40 CFR Part 75.
(9VAC5-80-110 and 9VAC5-140-740 B.)

530. **NO_X Budget Program Requirements - Reporting Requirements** – The NO_X authorized account representative shall submit quarterly reports as follows:

a. If owner or operator of a NO_X Budget unit chooses to meet the annual reporting requirements of Article 8 of 9VAC5-140, the NO_X authorized account representative shall submit a quarterly report, documenting the NO_X mass emissions from the unit(s) per the guidelines of 9VAC5-140-740 D. ;

b. The NO_X authorized account representative shall either:

i. Meet all of the requirements of 40 CFR Part 75 related to monitoring and reporting NO_X mass emissions during the entire year and meet the reporting deadlines specified in 9VAC5-140-740 D. 1; or

ii. Submit quarterly reports, documenting NO_X mass emissions from the unit(s), only for the period from May 1 through September 30 of each year and including the data described in 40 CFR 75.74 (c)(6). The NO_X authorized account representative shall submit quarterly reports per the guidelines of 9VAC5-140-740 D. 2. (b).

c. The NO_X authorized account representative shall submit each quarterly report to the administrator within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the matter specified in Subpart H of 40 CFR Part 75 and 40 CFR 75.64.

(9VAC5-80-110 and 9VAC5-140-740 D.)

Testing

531. **NO_X Budget Program Requirements** - The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
(9VAC5-80-110, 9VAC5-40-30 and 9VAC5-50-30)

532. **NO_X Budget Program Requirements** - If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with test method procedures approved by the DEQ:

Table 4. Test Methods

Pollutant or Stack Parameter	Test Method 40 CFR 60
Nitrogen Oxide – Stationary Source	USEPA Method 7

(9VAC5-80-110 and 9VAC5-140-700)

Liability

533. **NO_X Budget Program Requirements** - The following requirements concerning liability shall apply:

a. Any person who knowingly violates any requirement or prohibition of the NO_X Budget Program, a NO_X Budget permit, or an exemption under 9VAC5-140-50 shall be subject to enforcement pursuant to applicable State or Federal law.

b. Any person who knowingly makes a false material statement in any record, submission, or report under the NO_X Budget Program shall be subject to criminal enforcement pursuant to the applicable State or Federal law.

c. No permit revision shall excuse any violation of the requirements of the NO_X Budget Program that occurs prior to the date that the revision takes effect.

d. NO_X Budget source and each NO_X Budget unit shall meet the requirements of the NO_X Budget Program.

e. Any provision of the NO_X Budget Program that applies to a NO_X Budget source or the NO_X authorized account representative of a NO_X Budget source shall also apply to the owners and operators of such source and of the $_{NOX}$ Budget units at the source.

f. Any provision of the NO_X Budget Program that applies to a NO_X Budget unit or the NO_X authorized account representative of a NO_X Budget unit shall also apply to the owners and operators of such unit. Except with regard to the requirements applicable to units with a common stack under Article 8 (9VAC5-140-700 et seq.), the owners and operators and the NO_X authorized account representative of one NO_X Budget unit shall not be liable for any violation by any other NO_X Budget unit of which they are not owners or operators or the NO_X authorized account representative and that is located at a source of which they are not owners or operators or the NO_X authorized account representative.

(9VAC5-80-110 and 9VAC5-140-60 D.)

Effect on Other Authorities

534. **NO_X Budget Program Requirements - Effect on Other Authorities** - No provision of the NO_X Budget Program, a NO_X Budget permit application, a NO_X Budget permit, or an exemption under 9VAC5-140-50 shall be construed as exempting or excluding the owners and operators and, to the extent applicable, the NO_X authorized account representative of a NO_X Budget source or NO_X Budget unit from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

(9VAC5-80-110 and 9VAC5-140-60 E.)

TABLE XI – 1

PSEU 1

Unit ID: PWR006, PWR009	**Unit Description:** No. 6 and 9 Boiler Combined Stack
Control Device ID: PWRCD07	**Control Device Type**: Dual Alkali Scrubber
Pollutant(s): Sulfuric Acid	CAM not applicable for SO2 (See 64.2(b)(1)(vi))
Regulatory Requirement: NSR Permit Dated 2/25/08 (Condition 57)	
Most Stringent Limitation Sulfuric Acid 55 lb/hr	
CAM Description: The provisions of the permit requires that an SO2 CEM be employed to satisfy the continuous monitoring system requirements. Sulfur Dioxide is monitored at the common stack for the two referenced boilers. Although the CEMS only measures sulfur dioxide, sulfuric acid emissions are calculated based on SO2 emissions and monitoring of SO2 should be a sufficient surrogate to monitoring sulfuric acid.	
Indicator	SO2 Continuous Emissions Monitoring System (CEMS)
Measurement Approach	Continuous Emissions Monitoring System (Mass Emission Rate)
Indicator Range	Sulfur Dioxide is limited to 3300 lb/hr and the sulfuric acid limitation is derived from that parameter. An excursion is defined as any one-hour period in excess of 3000 lb/hr of SO2 or 90% of the standard. All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.
QIP Threshold	WestRock proposes that a QIP is triggered if more than 3 excursions of the indicator range occur during a semi-annual period.
Performance Criteria: Data Representatives	A CEMS is utilized to comply with the specific monitoring provisions. CEMS is operated in accordance with PS-2.
Verification of Operational Status	The stack is in service if any single boiler is producing steam.
QA/QC Practices and Criteria	The CEMS is calibrated daily in accordance with PS-1.
Monitoring Frequency	Data is collected by the CEMS DAS at least every minute.
Data Collection Procedures	Data is collected by the CEMS DAS and compiled into one-hour averages.

TABLE XI – 2 **PSEU 2**

Unit ID: PWR006, PWR009	**Unit Description:** No. 6 and 9 Boiler Combined Stack
Control Device ID: PWRCD07	**Control Device Type:** Electrostatic Precipitator
Pollutant(s): PM10	
Regulatory Requirement: 2/23/09 (BART SOP) Condition 15; 10/14/14 NSR Permit Condition 10	
Most Stringent Limitation: 166.4 lb/hr **(applies to No. 6-9 Boilers)** & 54.9 lbs/hr **(applies to Boiler No. 9)**	
CAM Description: The No. 6 and 9 Boilers are regulated under the provisions of Boiler MACT (40 CFR 63 Subpart DDDDD) for total filterable particulate. The Filterable Particulate Matter (FPM) limitation is 0.04 lb/MMBTU and the standard requires the installation of a particulate continuous parametric monitoring system (PM CPMS) for continuous compliance. Based upon the rated capacity of the No. 6 and No. 9 Boilers, the FPM limitation is equivalent to 54.28 lbs/hr. Therefore, the Subpart DDDDD standard is more stringent for PM than the standard for PM10 contained in Condition 15 of the BART permit. WestRock proposes that the continuous parametric monitoring system for PM be used to also satisfy the PM10 requirement for CAM.	
Indicator	PM CPMS
Measurement Approach	The PM CPMS generates a mA signal that is indicative of particulate levels.
Indicator Range	The provisions of Subpart DDDDD require that a Method 5 particulate stack test be conducted annually and that the CPMS milliamp reading be reestablished at that time per 40 CFR 63.7530(b)(4)(ii). The milliamp reading applies as a 30-day average. WestRock proposes that an excursion is defined as any daily average that exceeds the mA value set annually per the requirements of 40 CFR 63 Subpart DDDDD. (Records of the annual mA values will be maintained and readily available for DEQ inspection.) All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.
QIP Threshold	West Rock proposes that a QIP is triggered if more than 6 excursions of the indicator range occur during a semi-annual period.
Performance Criteria: Data Representatives	A PM CPMS is utilized to comply with the specific monitoring provisions. System is operated in accordance with 40 CFR 63 Subpart DDDDD.
Verification of Operational Status	The stack is in service if either boiler is generating steam.
QA/QC Practices and Criteria	The PMCPMS is calibrated daily.
Monitoring Frequency	Data is collected by the PMCPMS at least every 3 seconds.
Data Collection Procedures	Data is collected by the DAS and compiled into hourly and daily averages.

TABLE XI – 3

PSEU 3

Unit ID: PWR009	**Unit Description:** No. 9 Boiler
Control Device ID:	**Control Device Type**: SNCR/Overfire Air/Low NOx burners
Pollutant(s): NOx	
Regulatory Requirement: NSR Permit (SNCR) Dated 10/14/14 (Condition 2, 10)	
Most Stringent Limitation 242.1 lb/hr	
CAM Description: The provisions of the permits require that overfire air and SNCR be in operation when PWR009 is operational. The SNCR is equipped with a device to continuously measure and record urea injection rate. WestRock proposes that this requirement meets the requirement of CAM.	
Indicator	Urea Flow
Measurement Approach	Flow rate
Indicator Range	The SNCR shall be operated at optimum design and in accordance with the manufacturer's specifications. Urea Feedrate (gpm) = 4e-6 * Steam Rate ^2 – 0.0019 * Steam Rate + 0.3766 where steam rate is in terms of klb/hr. The equation was developed from performance testing associated with the development of the monitoring plan required in the NSR permit. The calculated required feed rate from the above equation and the actual feed rate are compiled in an hourly operating log for review.
QIP Threshold	West Rock proposes that a QIP is triggered if more than 3 excursions of the indicator range occur during a semi-annual period.
Performance Criteria: **Data Representatives**	The monitoring system consists of measurement of liquid flowrate through the Urea flow meter. Accuracy must be 5%.
Verification of Operational Status	Urea Flow based on formula
QA/QC Practices and Criteria	The monitoring devices are calibrated annually, and the manufacturer's recommendations are used at a minimum for other QA requirements.
Monitoring Frequency	Urea flowrate is monitored automatically every 15 minutes at a minimum.
Data Collection Procedures	Data is collected by PI and combined into 1-hour average.

TABLE XI - 4

PSEU 4

Unit ID: PWR014 **Unit Description:** Power Boiler 1	
Control Device ID: **Control Device Type**: Fabric Filter	
Pollutant(s): PM10	
Regulatory Requirement: NSR Permit Dated 9/08/11 and last amended 10/17/18 (Condition 36)	
Most stringent Requirement: 0.2 lb/MMBtu, 19.8 lbs/hr	
CAM Description: The provisions of the regulation and permits require that opacity be monitored to satisfy the continuous monitoring system requirements. Opacity is monitored at the stack for Power Boiler 1. Since opacity is the monitoring mechanism required for continuous compliance under the provisions of 40 CFR 63 Subpart DDDDD for FPM, WestRock proposes that this monitoring is sufficient for CAM for PM10.	
Indicator	Continuous Opacity Monitoring System (COMS)
Measurement Approach	The continuous opacity monitor (COMS) measures and records opacity every three seconds. These values are used to compute the 6-minute block average. The opacity measurements and records are maintained in the COM Data Acquisition System (DAS).
Indicator Range	Opacity is limited to an individual 6-minute level of 10% except for one six-minute period per hour not to exceed 20%. The PM/PM10 standard is expressed as an hourly limitation. The indicator range is 0 to 8% opacity. An excursion is defined as any six-minute period in excess of 8% opacity. All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.
QIP Threshold	A QIP will be developed and implemented if the number of excursions exceeds 5% duration of the operating time during a semi-annual reporting period.
Performance Criteria: Data Representatives	A COMS is utilized to comply with the specific monitoring provisions. COMS is operated in accordance with PS-1.
Verification of Operational Status	The stack is in service if the boiler is producing steam.
QA/QC Practices and Criteria	The COMS is calibrated daily in accordance with PS-1.
Monitoring Frequency	The COMS collects data at least every 3 seconds.
Data Collection Procedures	Data is collected by the COMS DAS and compiled into 6 minute and daily averages

TABLE XI - 5

PSEU 5

Unit ID: REC065	**Unit Description**: No. 1 Incinerator
Control Device ID: RECCD65	**Control Device Type**: Scrubber/Absorber
Pollutant(s): Sulfur Dioxide	
Regulatory Requirement: NSR Permit Dated 2/25/08 Condition 74	
Most Stringent Limitation SO2 21.6 lb/hr	
CAM Description: The provisions of the permit limit sulfur dioxide emissions from the incinerator. WestRock is proposing that pH of the scrubber/absorber be monitored to serve as CAM.	
Indicator	pH
Measurement Approach	pH is monitored by an on-line meter.
Indicator Range	An excursion is defined as any period in which the 24 hr average pH is below 9.5. The pH value is based upon historical stack testing information. All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.
QIP Threshold	WestRock proposes that a QIP is triggered if more than 3 excursions of the indicator range occur during a semi-annual period.
Performance Criteria: Data Representatives	The monitoring system consists of measurement of pH of the absorber liquid. Accuracy must be +/-5 %.
Verification of Operational Status	The incinerator is considered to be in service when NCG's are routed to the device.
QA/QC Practices and Criteria	The monitoring devices are calibrated annually, and the manufacturer's recommendations are used at a minimum for other QA requirements.
Monitoring Frequency	pH is monitored automatically every 15 minutes at a minimum.
Data Collection Procedures	Data is collected by PI and combined into 1-hour averages.

TABLE XI - 6 PSEU 6

Unit ID: REC060, REC064, REC070, REC071, REC072 **Unit Description: Recovery Accumulator, Condensate Stripper, HVLC, LVHC and Condensate Collection Systems**	
Control Device ID: **Control Device Type**: Thermal Destruction	
Pollutant(s): TRS	
Regulatory Requirement: NSR Permit dated 2/25/08 Condition 11, 40 CFR 60 Subpart BB, 9 VAC 5 Chapter 40 Article 13	
Most Stringent Requirement - Collection and Incineration	
CAM Description: The provisions of the regulation and permits require that these sources be collected and incinerated. The requirements are similar to those of the provisions of 40 CFR 63 Subpart S for the control of HAPs. Since the provisions are similar and TRS is treated similarly to HAP, WestRock proposes that the provisions associated with 40 CFR 63 Subpart S be utilized as CAM for TRS from the above sources.	
Indicator	Incinerator chamber temperature
Measurement Approach	incinerator temperature
Indicator Range	The permit condition requires that when non condensable gases (NCGs) (which includes TRS) are combusted in an incinerator, the minimum temperature shall be 1400 degrees F for at least 0.5 second. An excursion is defined as a period when NCGs gasses, are combusted at a temperature below 1450 F for more than one hour. All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.
QIP Threshold	WestRock proposes that a QIP is triggered if more than 3 excursions of the indicator range occur during a semi-annual period.
Performance Criteria: Data Representatives	Temperature must be monitored with an accuracy of 2%
Verification of Operational Status	NCGs combusted in the incinerator.
QA/QC Practices and Criteria	Temperature monitor must be calibrated annually.
Monitoring Frequency	Data is collected by the PI system at least every minute.
Data Collection Procedures	Data is collected by the PI system each minute and reported when vent valves are open with the process in operation.

TABLE XI - 7 PSEU 7

Unit ID: REC001	**Unit Description:** No. 1 Recovery Furnace
Control Device ID: RECCD01	**Control Device Type**: ESP (prior to ESP replacement upgrade)
Pollutant(s): PM10	
Regulatory Requirement: PSD Permit Dated 11/20/2007, Condition 26	
Most Stringent Limitation 103.8 lb/hr	
WestRock intends to replace the existing precipitator within the timeframe of the renewed Title V permit. This table applies to the situation until the ESP is replaced. See Table XI-7a regarding the CAM requirements after ESP replacement. **CAM Description**: For a recovery furnace equipped with an ESP, the provisions of Subpart MM require that a COMS be installed. WestRock requested and received EPA approval to monitor alternative control device operating parameters instead of installing a COMS. In accordance with EPA prior approval, secondary power levels are monitored and maintained as a 3-hour average for the No 1 Recovery Furnace. WestRock proposes that these approved alternative monitoring requirements meet the requirements of CAM for PM10.	
Indicator	Total Secondary Power from each precipitator
Measurement Approach	Secondary Power is calculated from measurement of voltage and ampere from each precipitator field.
Indicator Range	Per the initial performance tests for 40 CFR 63 Subpart MM. the total Secondary Power from each precipitator must be greater than 95 kW as a 3-hour average. Each precipitator must have three fields in service as a 3-hour average. (A field must have at least 10 kW of power to be considered in service). An excursion is defined as any one-hour period when the total secondary power is less than 95kW or if at least three fields are not in service for one hour.
QIP Threshold	WestRock proposes that a QIP is triggered if more than 3 excursions of the indicator range occur during a semi-annual period.
Performance Criteria: Data Representatives	Secondary Power is measured and recorded.
Verification of Operational Status	The stack is in service if the boiler is producing steam.
QA/QC Practices and Criteria	The monitoring devices are calibrated annually, and the manufacturer's recommendations are used at a minimum for other QA requirements.
Monitoring Frequency	Data is collected by the PI system at least every minute.
Data Collection Procedures	Data is collected by PI and combined into hourly average.

TABLE XI-7a PSEU 8

Unit ID: REC001	**Unit Description:** No. 1 Recovery Furnace
Control Device ID: RECCD10	**Control Device Type:** ESP (after ESP replacement upgrade)
Pollutant(s): PM10	
Regulatory Requirement: PSD Permit Dated 11/20/2007, condition 26	
Most Stringent Limitation: 103.8 lb/hr	
CAM Description: WestRock intends to replace the existing precipitator within the timeframe of the renewed Title V permit. This table applies to the situation after the ESP is replaced. See Table XI-7 regarding the CAM requirements prior to ESP replacement. The provisions of Subpart MM require that a COMS be installed on a recovery furnace equipped with an ESP to continuously monitor opacity unless alternate monitoring is approved as it was originally for the No. 1 Recovery Furnace. After ESP replacement, WestRock proposes that the standard continuous opacity monitoring requirements also meet the CAM requirements for PM10.	
Indicator	Continuous Opacity Monitoring System (COMS)
Measurement Approach	Continuous Opacity Monitoring
Indicator Range	The No. 1 Recovery Furnace is limited to 35% opacity (6-minute average) in the permit. The indicator range is 0 to 30% opacity. An excursion is defined as one six-minute period whenever the opacity exceeds 30%. All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.
QIP Threshold	A QIP will be developed and implemented if the number of excursions exceeds 5% duration of the operating time during a semi-annual reporting period.
Performance Criteria: Data Representatives	A COMS is utilized to comply with the specific monitoring provisions.
Verification of Operational Status	The stack is in service if the boiler is producing steam.
QA/QC Practices and Criteria	The monitoring devices are calibrated daily.
Monitoring Frequency	Data is collected by the COMS at least every 3 seconds.
Data Collection Procedures	Data is collected by the COMS DAS and compiled into 6 minute and daily averages.

TABLE XI – 8 PSEU 9

Unit ID: REC002; REC003	**Unit Description:** No. 1 Recovery Smelt Dissolving Tank
Control Device ID: RECCD02&03	**Control Device Type**: Venturi Scrubber
Pollutant(s): PM10 & SO2	
Regulatory Requirement: PSD Permit Dated 11/20/2007, Condition 27 (PM10) Permit Dated 2/23/09 (BART) Condition 18 (PM10/SO2)	
Most Stringent Limitation: PM10:12.6 lb/hr SO2: 14.8 lb/hr	
CAM Description: The provisions of Subpart MM require that scrubber liquid flowrate be monitored to satisfy the continuous monitoring system requirements for PM. WestRock proposes that these requirements also meet the requirements of CAM for SO2 and PM10. Adequate scrubber flow is necessary for both PM/PM10 and SO2 control.	
Indicator	Scrubber Liquid Flowrate
Measurement Approach	Flow is monitored through a liquid flowmeter.
Indicator Range	Per the compliance testing established for particulate for 40 CFR 63 Subpart MM, the scrubber liquid flowrate must remain above the 3-hour liquid scrubber flowrate as determined by the most recent compliance stack test. An excursion is defined as any one-hour period when the scrubber flowrate is below the 3-hour average. Records of the 3-hour liquid flowrate data shall be maintained and readily available for DEQ inspection. All excursions trigger investigation, corrective action, and reporting on the semi-annual deviation report as necessary.
QIP Threshold	WestRock proposes that a QIP is triggered if more than 3 excursions of the indicator range occur during a semi-annual period.
Performance Criteria: Data Representatives	The monitoring system consists of measurement of liquid flowrate through the venturi section of the scrubber. Accuracy must be 5 %.
Verification of Operational Status	Smelt Dissolving Tank processing green liquor.
QA/QC Practices and Criteria	The monitoring devices are calibrated annually, and the manufacturer's recommendations are used at a minimum for other QA requirements.
Monitoring Frequency	Scrubber flowrate is monitored automatically every 15 minutes at a minimum.
Data Collection Procedures	Data is collected by PI and combined into hourly average.

TABLE XI - 9 PSEU 10

Unit ID: REC010	**Unit Description:** No. 2 Recovery Furnace
Control Device ID: RECCD10	**Control Device Type**: ESP
Pollutant(s): PM10	
Regulatory Requirement: PSD Permit Dated 11/20/2007 Condition 21, NSR Permit Dated 2/25/08 Condition 67	
Most Stringent Limitation: 51.1 lb/hr	
CAM Description: The provisions of Subpart MM require that a COMS be installed on a recovery furnace equipped with an ESP to continuously monitor opacity. WestRock proposes that the continuous opacity monitoring requirements also meet the CAM requirements for PM10.	
Indicator	Continuous Opacity Monitoring System (COMS)
Measurement Approach	Continuous Opacity Monitoring
Indicator Range	The No. 2 Recovery Furnace is limited to 35% opacity (6-minute average) in the permit. The indicator range is 0 to 30% opacity. An excursion is defined as one six minute period when the opacity exceeds 30%. All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.
QIP Threshold	A QIP will be developed and implemented if the number of excursions exceeds 5% duration of the operating time during a semi-annual reporting period.
Performance Criteria: Data Representatives	A COMS is utilized to comply with the specific monitoring provisions.
Verification of Operational Status	The stack is in service if the boiler is producing steam.
QA/QC Practices and Criteria	The monitoring devices are calibrated daily.
Monitoring Frequency	The COMS collects data at least every 3 seconds.
Data Collection Procedures	Data is collected by the COMS DAS and compiled into 6 minute, hourly and daily averages.

TABLE XI - 10 PSEU 11

Unit ID: REC011	**Unit Description:** No. 2 Recovery Smelt Dissolving Tank
Control Device ID: RECCD11	**Control Device Type**: Venturi Scrubber
Pollutant(s): SO2, PM10	
Regulatory Requirement: PSD Permit Dated 11/20/2007, Condition 23	
Most Stringent Limitation SO2: 14.0 lb/hr	PM10: 14.0 lb/hr
CAM Description: The provisions of Subpart MM require that scrubber liquid flowrate be monitored to satisfy the continuous monitoring system requirements for PM. WestRock proposes that these requirements also meet the requirements of CAM for SO2 and PM10. Adequate scrubber flow is necessary for both PM10 and SO2 control.	
Indicator	Scrubber Liquid Flowrate
Measurement Approach	Flow is monitored through a liquid flowmeter.
Indicator Range	Per the compliance testing established for particulate for 40 CFR 63 Subpart MM, the scrubber liquid flowrate must remain above the 3-hour liquid scrubber flowrate as determined by the most recent compliance stack test. An excursion is defined as any one-hour period when the scrubber flowrate is below the 3-hour average. Records of the 3-hour liquid flowrate data shall be maintained and readily available for DEQ inspection. All excursions trigger investigation, corrective action, and reporting on the semi-annual deviation report as necessary.
QIP Threshold	WestRock proposes that a QIP is triggered if more than 3 excursions of the indicator range occur during a semi-annual period.
Performance Criteria: Data Representatives	The monitoring system consists of measurement of liquid flowrate through the venturi section of the scrubber. Accuracy must be 5%.
Verification of Operational Status	Smelt Dissolving Tank processing green liquor.
QA/QC Practices and Criteria	The monitoring devices are calibrated annually, and the manufacturer's recommendations are used at a minimum for other QA requirements.
Monitoring Frequency	Scrubber flowrate is monitored automatically every 15 minutes at a minimum.
Data Collection Procedures	Data is collected by PI and combined into 3-hour average.

TABLE XI - 11

PSEU 12

Unit ID: REC045	**Unit Description:** No. 1 Lime Kiln
Control Device ID: RECCD45	**Control Device Type:** Venturi Scrubber
Pollutant(s): PM10	
Regulatory Requirement: Condition 28 of the 11/20/07 Permit	
Most Stringent Limitation 27 lb/hr	
CAM Description: The provisions of Subpart MM require that scrubber pressure drop be monitored to satisfy the continuous monitoring system requirements for PM. WestRock proposes that these requirements also meet the requirements of CAM for PM10. Adequate scrubber pressure drop is necessary for both PM/PM10.	
Indicator	Scrubber Pressure Drop
Measurement Approach	Pressure Drop is monitored per a differential pressure meter.
Indicator Range	Per the compliance testing established for particulate for 40 CFR 63 Subpart MM, the scrubber pressure drop must remain above the 3-hour scrubber pressure drop as determined by the most recent compliance stack test. An excursion is defined as any one-hour period when the scrubber pressure drop is below the 3-hour average. All excursions trigger investigation, corrective action, and reporting on the semi-annual deviation report as necessary.
QIP Threshold	WestRock proposes that a QIP is triggered if more than 3 excursions of the indicator range occur during a semi-annual period.
Performance Criteria: Data Representatives	The monitoring system consists of measurement of pressure drop through the venturi section of the scrubber. Accuracy must be 5 %.
Verification of Operational Status	Lime Mud feed to the kiln
QA/QC Practices and Criteria	The monitoring devices are calibrated annually, and the manufacturer's recommendations are used at a minimum for other QA requirements.
Monitoring Frequency	Pressure Drop is monitored automatically every 15 minutes at a minimum.
Data Collection Procedures	Data is collected by PI and combined into hourly average.

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PSEU 13

Unit ID: REC047	**Unit Description:** No. 2 Lime Kiln
Control Device ID: RECCD47	**Control Device Type**: ESP
Pollutant(s): PM10	
Regulatory Requirement: Permit Dated 2/25/2008 Condition 59	
Most Stringent Limitation: 0.018 gr/dscf, 13.1 lb/hr	
CAM Description: The provisions of Subpart MM require that a COMS be installed on a lime kiln equipped with an ESP to continuously monitor opacity. WestRock proposes that the continuous opacity monitoring requirements also meet the CAM requirements for PM10.	

Indicator	Continuous Opacity Monitoring System (COMS)
Measurement Approach	Continuous Opacity Monitoring
Indicator Range	Opacity is used as a means to demonstrate compliance with the particulate standards of Subpart MM. The No. 2 Lime Kiln is limited to 20% opacity (6-minute average) in the permit. The indicator range is 0 to 18% opacity. An excursion is defined as one six-minute period when the opacity exceeds 18%. All excursions trigger investigation, corrective action and reporting on the semi-annual deviation report as necessary.
QIP Threshold	A QIP will be developed and implemented if the number of excursions exceed 5% duration of the operating time during a semi-annual reporting period.
Performance Criteria: Data Representatives	A COMS is utilized to comply with the specific monitoring provisions.
Verification of Operational Status	The stack is in service if the boiler is producing steam.
QA/QC Practices and Criteria	The monitoring devices are calibrated daily.
Monitoring Frequency	The COMS collects data at least every 3 seconds.
Data Collection Procedures	Data is collected by the COMS DAS and compiled into 6 minute, hourly and daily averages.